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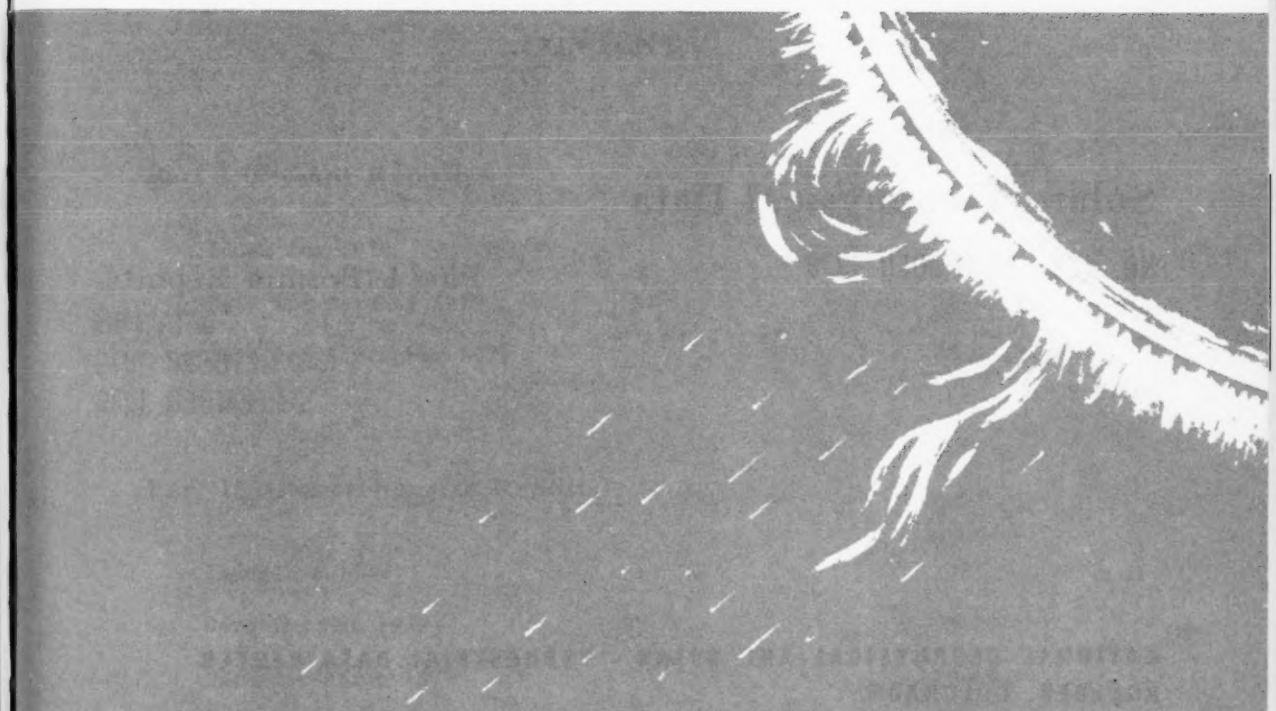
NOVEMBER 1979 NUMBER 423 -- Part D-A

Astronomy
QB1-U57
W0423, pt1

Solar-Geophysical Data prompt reports

Data for October 1979 -- September 1979

Explanation of Data Reports Issued as Number 414 (Supplement) February 1979



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Solar - Geophysical Data

NO. 423 NOVEMBER 1979

Part I (Prompt Reports)

DATA FOR
OCTOBER 1979
SEPTEMBER 1979

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
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SOLAR-GEOPHYSICAL DATA

No. 423

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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DETAILED COVERAGE FOR 1979 PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

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Notes:

"415A 52" listed under 1979 Jan means that the sunspot drawings for January 1979 were contained in *Solar-Geophysical Data* Number 415 - Part I, beginning on page 52.

A = Part I, B = Part II.

--- = no data available.
blank = data not yet received.

SGD 423 Part I (Prompt)

OCTOBER 1979 DATA

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ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

OCTOBER 1979

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

01 OCTOBER 1979 PRESTO BOULDER 01/1818Z SOFLARE M1/2B N12E66 01/1811Z DURATION 28 MINUTES.

07 OCTOBER 1979 PRESTO BOULDER 07/1451Z SOFLARE M2/1B N15E33 07/1405Z DURATION 12 MINUTES.
TENFLARE 480 FLUX UNITS 07/1404Z DURATION 20 MINUTES.

17 OCTOBER 1979 PRESTO BOULDER 17/1637Z SOFLARE M1/2B 17/1609Z N31W06 DURATION 50 MINUTES.

19 OCTOBER 1979 PRESTO BOULDER 19/0452Z SOFLARE M9/OPTICAL UNKNOWN, LOCATION UNKNOWN, 19/0413Z.
DURATION 15 MINUTES.
TENFLARE 280 FLUX UNITS 19/0416Z DURATION 10 MINUTES.

PRESTO BOULDER 19/1355Z SOFLARE X1/1B 19/1157Z N28E12 DURATION 45 MINUTES.
TENFLARE 19/1158Z 1600 FLUX UNITS DURATION 15 MINUTES.

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
274	01	30	303	231	017	S19W88	1	0	0		01	S19W88	Q	SOLALERT 01/02 MAGQUIET
						N20W46	8	0	0			N20W46	A	
						S13W80	0	0	0			S13W80	Q	
						N14W72	0	0	0			N14W72	Q	
						N14W33	1	0	0			N14W33	Q	
						S13W62	1	0	0			S13W62	Q	
						N23E16	0	0	0			N23E16	Q	
						S26E42	0	0	0			S26E42	Q	
						N12E64	2	0	0			N12E64	Q	
						S34E11	0	0	0			S34E11	Q	
						N15E45	2	0	0			N15E45	Q	
						S25E31	3	0	0			S25E31	Q	
						N17W20	2	0	0			N17W20	E	
						S22W14	1	0	0			S22W14	Q	
275	02	01	226	212	012	N20W59	6	1	0	PRESTO BOULDER SOFLARE 01/1818Z M1/2B N12E60 01/1811Z DURATION 28 MINUTES.	02	N20W59	E	SOLALERT 02/03 MAGQUIET
						N14W46	1	0	0			N14W46	Q	
						S12W75	1	0	0			S12W75	Q	
						S24W44	0	0	0			S24W44	Q	
						N17W35	0	0	0			N17W35	Q	
						S21W25	4	1	0			S21W25	E	
						N13W00	0	0	0			N13W00	Q	
						S28E29	0	0	0			S28E29	Q	
						N13E57	4	1	0			N13E57	E	
						N14E30	2	0	0			N14E30	Q	
						S12W13	0	0	0			S12W13	Q	
276	03	02	216	211	007	N19W73	1	0	0		03	N19W73	Q	SOLALERT 03/04 MAGQUIET
						N13W61	0	0	0			N13W61	Q	
						S15W85	0	0	0			S15W85	Q	
						S27W57	1	0	0			S27W57	Q	
						N16W50	0	0	0			N16W50	Q	
						S24W39	2	0	0			S24W39	Q	
						S29E16	1	0	0			S29E16	Q	
						N13E38	2	0	0			N13E38	Q	
						N14E14	3	0	0			N14E14	E	
						N11E74	1	0	0			N11E74	Q	
						N24E77	1	0	0			N24E77	Q	
						N12E51	1	1	0			N12E51	E	
277	04	03	210	205	013	N19W85	0	0	0		04	N19W85	Q	SOLALERT 04 MAGQUIET
						N12W73	0	0	0			N12W73	Q	
						S28W68	0	0	0			S28W68	Q	
						N16W62	1	1	0			N16W62	Q	
						S25W52	2	0	0			S25W52	Q	
						S29E06	0	0	0			S29E06	Q	
						N14E31	0	0	0			N14E31	Q	
						N15E02	1	0	0			N15E02	E	
						N13E60	0	0	0			N13E60	Q	
						N26E66	0	0	0			N26E66	Q	
						N14E36	0	0	0			N14E36	Q	
						N18E76	2	0	0			N18E76	E	
278	05	04	182	198	014	N13W85	1	0	0		05	N13W85	Q	SOLALERT 05/07 MAGQUIET
						N15W75	0	0	0			N15W75	Q	
						S24W64	0	0	0			S24W64	Q	
						S28W07	0	0	0			S28W07	Q	
						N13E13	0	0	0			N13E13	Q	
						N15W11	0	0	0			N15W11	Q	
						N18E67	6	2	0			N18E67	A	
						S32E73	0	0	0			S32E73	Q	
						N18W29	0	0	0			N18W29	Q	
						N13E46	0	0	0			N13E46	Q	
						N26E55	7	1	0			N26E55	A	
						N14E24	0	0	0			N14E24	Q	
279	06	05	223	198	008	N14W89	0	0	0		06	N14W89	E	SOLALERT 06/08 MAGQUIET
						S25W78	5	1	0			S25W78	E	
						S28W23	0	0	0			S28W23	Q	
						N11E01	0	0	0			N11E01	Q	
						N14W25	0	0	0			N14W25	Q	
						N13E33	0	0	0			N13E33	Q	
						N27E41	8	0	0			N27E41	E	
						N13E09	1	0	0			N13E09	Q	
						N18E54	10	1	0			N18E54	A	
						S32E60	2	0	0			S32E60	Q	
						N18W42	0	0	0			N18W42	Q	
						S19W39	1	0	0			S19W39	Q	
						S13E35	1	0	0			S13E35	Q	
280	07	06	230	196	028	S21W53	4	0	0	KAKIOKA REPORT MAGSTORM SSC 06/1128Z AND END 06/2200Z. SYDNEY REPORTS MODERATE MAGSTORM 06/1118Z TO ABOUT 06/1800Z.	07	S21W53	E	SOLALERT 07/08 MAGQUIET
						N14W39	0	0	0			N14W39	Q	
						S29W37	0	0	0			S29W37	Q	
						N13W17	0	0	0			N13W17	Q	
						N13W03	0	0	0			N13W03	Q	
						N13E21	0	0	0			N13E21	Q	
						S14E23	0	0	0			S14E23	Q	
						N26E27	7	2	0			N26E27	A	
						N16E38	2	0	0			N16E38	A	
						S32E47	1	0	0			S32E47	Q	
						N11E61	0	0	0			N11E61	Q	

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281	08	07	231	197	025	S27W50	0	0	0	PRESTO BOULDER SO-	08	S27W50	Q	SOLALERT 08/09 MAGALERT 08
						N12W23	2	0	0	FLARE M2/1B N15E33		N12W23	Q	
						N14W56	1	0	0	07/1405Z DURATION		N14W56	Q	
						N12E11	0	0	0	12 MINUTES TENFLARE		N12E11	Q	
						N25E14	4	0	0	480 FLUX UNITS		N25E14	A	
						N12W14	4	0	0	07/1404Z DURATION		N12W14	Q	
						N15E25	2	1	0	20 MINUTES.		N15E25	A	
						S33E35	0	0	0			S33E35	Q	
						S21W66	7	0	0			S21W66	E	
						S16E10	0	0	0			S16E10	Q	
						N12W32	0	0	0			N12W32	Q	
						N10E50	3	0	0			N10E50	Q	
						N21E36	0	0	0			N21E36	Q	
						N28E07	0	0	0			N28E07	Q	
282	09	08	265	201	029	S29W64	1	0	0	PRESTO TOYOKAWA	09	S29W64	Q	SOLALERT 09/10
						N11E41	0	0	0	08/0314Z TENFLARE		N11E41	Q	MAGALERT MINOR 09
						N13W71	0	0	0	120 FLUX UNITS		N13W71	Q	
						N12W04	1	0	0	07/2251Z WITH 13		N12W04	Q	
						N25E03	0	0	0	MINUTES DURATION.		N25E03	Q	
						N11W28	1	0	0			N11W28	Q	
						N16E12	0	0	0			N16E12	E	
						S33E23	0	0	0			S33E23	Q	
						S20W80	9	0	0			S20W80	E	
						S13W06	0	0	0			S13W06	Q	
						N10W47	0	0	0			N10W47	Q	
						N10E36	1	0	0			N10E36	Q	
						N21E23	3	0	0			N21E23	E	
						S12W53	0	0	0			S12W53	Q	
						N24E74	3	0	0			N24E74	Q	
283	10	09	242	214	018	S30W82	0	0	0		10	S30W82	Q	SOLALERT 10
						N09W51	1	0	0			N09W51	Q	MAGALERT MINOR 10
						N13W87	1	0	0			N13W87	Q	
						N25W12	0	0	0			N25W12	E	
						N11W45	1	0	0			N11W45	Q	
						N16W02	2	0	0			N16W02	E	
						S24W05	0	0	0			S24W05	Q	
						S14W21	1	0	0			S14W21	Q	
						N11E23	1	0	0			N11E23	Q	
						S14W71	4	0	0			S14W71	E	
						N25E66	1	0	0			N25E66	Q	
						S07W22	0	0	0			S07W22	Q	
						S32E60	0	0	0			S32E60	Q	
284	11	10	252	210	015	N25W23	1	0	0		11	N25W23	Q	SOLNIL MAGNIL
						N12W56	0	0	0			N12W56	Q	
						N15W17	4	0	0			N15W17	E	
						S33W04	0	0	0			S33W04	Q	
						S14W33	4	0	0			S14W33	Q	
						N12E09	4	0	0			N12E09	Q	
						N22W03	0	0	0			N22W03	Q	
						S13W83	0	0	0			S13W83	Q	
						N26E51	1	0	0			N26E51	Q	
						S06W34	0	0	0			S06W34	Q	
						S33E45	0	0	0			S33E45	Q	
						N30E60	4	0	0			N30E60	E	
						N14E70	0	0	0			N14E70	Q	
						S12E67	0	0	0			S12E67	Q	
285	12	11	198	213	011	N24W37	2	0	0		12	N24W37	E	SOLQUIET
						N12W70	1	0	0			N12W70	Q	MAGALERT MINOR 13
						N16W28	3	0	0			N16W28	E	
						S13W46	2	0	0			S13W46	Q	
						N12W04	5	0	0			N12W04	E	
						N24E34	0	0	0			N24E34	Q	
						S06W47	0	0	0			S06W47	Q	
						S32W33	1	0	0			S32W33	Q	
						N29E45	4	0	0			N29E45	E	
						N13E57	3	0	0			N13E57	Q	
						S12E59	0	0	0			S12E59	Q	
286	13	12	232	218	008	N25W49	0	0	0		13	N25W49	Q	SOLQUIET
						N10W84	0	0	0			N10W84	Q	MAGALERT MINOR 13/14
						N15W40	2	0	0			N15W40	E	
						S14W62	1	0	0			S14W62	Q	
						N11W17	1	0	0			N11W17	E	
						N22E18	1	0	0			N22E18	Q	
						S06W62	0	0	0			S06W62	Q	
						S33E20	0	0	0			S33E20	Q	
						N27E30	1	0	0			N27E30	E	
						N12E44	1	0	0			N12E44	E	
						S13E43	0	0	0			S13E43	Q	
						S06W00	0	0	0			S06W00	Q	
						N34E55	0	0	0			N34E55	Q	

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						Location	No. of Flares				Date	Location	Desc*	
						Lat-Long	Total	M	X			Lat-Long		
287	14	13	221	220	007	N24W65	0	0	0		14	N24W65	Q	SOLALERT 14/16 MAGNIL
						N14W52	8	0	0			N14W52	A	
						S14W74	7	0	0			S14W74	Q	
						N11W30	1	0	0			N11W30	E	
						N24E10	0	0	0			N24E10	Q	
						S07W76	0	0	0			S07W76	Q	
						S32E05	1	0	0			S32E05	Q	
						N28E20	4	1	0			N28E20	E	
						N12E31	0	0	0			N12E31	Q	
						N30E42	0	0	0			N30E42	Q	
						S06E62	0	0	0			S06E62	Q	
						N05E77	0	0	0			N05E77	Q	
						S16E39	0	0	0			S16E39	Q	
						N29W89	0	0	0			N29W89	Q	
						S23W69	0	0	0			S23W69	Q	
						S19W30	0	0	0			S19W30	Q	
						S12W29	0	0	0			S12W29	Q	
						N20E84	0	0	0			N20E84	E	
288	15	14	263	239	009	N23W78	0	0	0		15	N23W78	Q	SOLALERT 15/17 MAGQUIET
						N15W63	7	1	0			N15W63	E	
						S17W87	3	0	0			S17W87	Q	
						N11W42	0	0	0			N11W42	E	
						N23W06	0	0	0			N23W06	Q	
						S32W06	0	0	0			S32W06	Q	
						N28E08	3	0	0			N28E08	A	
						N12W18	0	0	0			N12W18	Q	
						N31E30	3	0	0			N31E30	A	
						S06E51	0	0	0			S06E51	Q	
						N07E63	0	0	0			N07E63	Q	
						S16E25	0	0	0			S16E25	Q	
						S12W43	0	0	0			S12W43	Q	
						N26E72	8	0	0			N26E72	A	
289	16	15	282	233	005	N24W88	0	0	0		16	N24W88	Q	SOLALERT MINOR 16/17
						N15W76	0	0	0			N15W76	Q	MAGQUIET
						N11W56	0	0	0			N11W56	Q	
						N23W17	0	0	0			N23W17	Q	
						N29W06	4	0	0			N29W06	E	
						N12E05	0	0	0			N12E05	Q	
						S26W40	0	0	0			S26W40	Q	
						N31E17	5	0	0			N31E17	E	
						S06E37	0	0	0			S06E37	Q	
						N07W50	0	0	0			N07W50	Q	
						S16E11	0	0	0			S16E11	Q	
						N27E59	5	0	0			N27E59	E	
						N15E18	0	0	0			N15E18	Q	
						S17E27	0	0	0			S17E27	Q	
						N06E37	0	0	0			N06E37	Q	
						S26E69	0	0	0			S26E69	Q	
290	17	16	267	232	010	N11W69	0	0	0		17	N11W69	Q	SOLALERT 17 MAGQUIET
						N23W30	0	0	0			N23W30	Q	
						N28W17	3	1	0			N28W17	E	
						N12W09	2	0	0			N12W09	Q	
						N31E04	1	0	0			N31E04	E	
						S07E24	2	0	0			S07E24	Q	
						N07E37	0	0	0			N07E37	Q	
						S16E02	0	0	0			S16E02	Q	
						N27E47	6	0	0			N27E47	E	
						N15E05	0	0	0			N15E05	Q	
						S18E13	0	0	0			S18E13	Q	
						N06E23	0	0	0			N06E23	Q	
						S26E56	0	0	0			S26E56	Q	
						S13E67	0	0	0			S13E67	Q	
						N17W84	0	0	0			N17W84	Q	
291	18	17	280	232	005	N15W95	0	0	0	PRESTO BOULDER SO-	18	N15W95	Q	SOLALERT 18/19
						N10W84	0	0	0	FLARE M2/1B N15E33		N10W84	Q	MAGQUIET
						N22W47	0	0	0	07/1405Z DURATION		N22W47	Q	
						N28W30	3	0	0	12 MINUTES.		N28W30	E	
						N12W22	0	0	0			N12W22	Q	
						N32W08	14	1	0			N32W08	A	
						S06E11	1	0	0			S06E11	Q	
						N09E19	3	0	0			N09E19	Q	
						S15W15	0	0	0			S15W15	Q	
						N27E34	6	3	2			N27E34	A	
						S18W01	1	0	0			S18W01	Q	
						N05E15	0	0	0			N05E15	Q	
						S25E47	0	0	0			S25E47	Q	
						S13E55	0	0	0			S13E55	Q	
						S08E63	0	0	0			S08E63	Q	
						N18E21	0	0	0			N18E21	Q	
						S10E79	1	0	0			S10E79	Q	
						S13E30	0	0	0			S13E30	Q	

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292	19	18	300	239	003	N23W58	0	0	0		19	N23W58	Q	SOLALERT 19/xx
						N28W41	5	0	0			N28W41	E	MAGQUIET
						N12W33	0	0	0			N12W33	Q	
						N31W21	10	0	0			N31W21	A	
						S06W01	0	0	0			S06W01	Q	
						N08E09	0	0	0			N08E09	Q	
						S15W28	0	0	0			S15W28	Q	
						N27E23	2	1	0			N27E23	A	
						S17W14	2	0	0			S17W14	Q	
						N06W00	0	0	0			N06W00	Q	
						S26E34	0	0	0			S26E34	Q	
						S12E42	0	0	0			S12E42	Q	
						S09E49	0	0	0			S09E49	Q	
						N18E07	0	0	0			N18E07	Q	
						S11E65	3	0	0			S11E65	E	
						N23E78	0	0	0			N23E78	Q	
						N26E12	0	0	0			N26E12	Q	
293	20	19	259	242	002	N22W74	0	0	0	X1/1B FLARE OC-	20	N22W74	Q	SOLALERT 20/22
						N28W55	1	0	0	CURRED AT 19/1157Z		N28W55	Q	MAGQUIET
						N11W48	0	0	0	AT N28E12 DURATION		N11W48	Q	
						N31W36	4	0	0	45 MINUTES WITH TEN-		N31W36	A	
						S07W18	3	0	0	FLARE OF 1600 FLUX		S07W18	Q	
						N04W04	0	0	0	UNITS AT 19/1158Z		N04W04	Q	
						S16W47	0	0	0	DURATION 15 MINUTES		S16W47	Q	
						N27E08	7	1	1	A TENFLARE OCCURRED		N27E08	A	
						N06W16	0	0	0	AT 19/0416Z 280		N06W16	Q	
						S12E28	0	0	0	FLUX UNITS 10 MIN-		S12E28	Q	
						S08E35	1	0	0	UTE DURATION WITH		S08E35	Q	
						N17W08	0	0	0	ASSOCIATED M9 FLARE		N17W08	Q	
						S12E25	0	0	0	THE OPTICAL IMPOR-		S12E25	Q	
						N24E63	0	0	0	TANCE AND LOCATION		N24E63	Q	
						N26W02	0	0	0	UNKNOWN.		N26W02	Q	
						N14E13	0	0	0			N14E13	Q	
294	21	20	316	241	006	N22W87	0	0	0	TENFLARE TOYOKAWA	-21	N22W87	Q	SOLALERT 21/25
						N29W68	4	0	0	20/0302Z 130 FLUX		N29W68	A	MAGALERT MINOR 21/22
						N11W62	0	0	0	UNITS, TENFLARE		N11W62	Q	
						N31W49	1	0	0	20/0552Z 440 FLUX		N31W49	E	
						S07W31	0	0	0	UNITS M1/2B FLARE		S07W31	Q	
						N04W20	0	0	0	AT N26W04 20/1828Z.		N04W20	Q	
						S16W60	0	0	0			S16W60	Q	
						N28W04	6	3	0			N28W04	A	
						S26E07	0	0	0			S26E07	Q	
						S12E15	0	0	0			S12E15	Q	
						S09E22	1	0	0			S09E22	E	
						N16W27	0	0	0			N16W27	Q	
						S12E37	0	0	0			S12E37	E	
						S14W10	0	0	0			S14W10	Q	
						N25E50	1	0	0			N25E50	Q	
						N26W15	0	0	0			N26W15	Q	
						S15W00	0	0	0			S15W00	Q	
						N11E41	0	0	0			N11E41	Q	
						N12E78	0	0	0			N12E78	Q	
295	22	21	265	232	009	N29W80	1	1	0		22	N29W80	A	SOLALERT 22/xx
						N32W61	0	0	0			N32W61	E	MAGALERT 22/xx
						S07W45	0	0	0			S07W45	Q	
						N04W41	0	0	0			N04W41	Q	
						S16W75	0	0	0			S16W75	Q	
						N27W16	4	1	0			N27W16	A	
						N05W41	0	0	0			N05W41	Q	
						S27W05	0	0	0			S27W05	Q	
						S10E08	0	0	0			S10E08	Q	
						S12E22	1	0	0			S12E22	E	
						N24E38	0	0	0			N24E38	Q	
						N25W28	0	0	0			N25W28	Q	
						S16W13	0	0	0			S16W13	Q	
						N10E26	0	0	0			N10E26	Q	
						N11E63	0	0	0			N11E63	Q	
						S15E68	0	0	0			S15E68	Q	
						S24E69	0	0	0			S24E69	Q	
296	23	22	233	224	016	N32W77	1	0	0		23	N32W77	Q	SOLALERT 23/xx
						N27W30	6	2	0			N27W30	A	MAGALERT MINOR 23/25
						N06W54	0	0	0			N06W54	Q	
						S28W17	0	0	0			S28W17	Q	
						S09W04	2	0	0			S09W04	Q	
						N19W49	1	0	0			N19W49	Q	
						S12E08	0	0	0			S12E08	E	
						N23E26	0	0	0			N23E26	Q	
						N25W42	0	0	0			N25W42	Q	
						N11E50	5	0	0			N11E50	E	
						S14E54	0	0	0			S14E54	Q	
						S23E55	0	0	0			S23E55	Q	
						N19E13	0	0	0			N19E13	Q	

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297	24	23	207	226	008	N32W93	0	0	0		24	N32W93	Q	SOLALERT MINOR 24
						N28W41	2	0	0			N28W41	E	MAGALERT MINOR 24/25
						S28W31	0	0	0			S28W31	Q	
						N19W63	0	0	0			N19W63	Q	
						S12W06	0	0	0			S12W06	Q	
						N22E13	0	0	0			N22E13	Q	
						N25W54	0	0	0			N25W54	Q	
						N11E36	1	0	0			N11E36	Q	
						S13E39	1	0	0			S13E39	Q	
						S22E43	3	0	0			S22E43	E	
						N17E32	1	0	0			N17E32	Q	
						N27E77	0	0	0			N27E77	Q	
298	25	24	258	230	015	N03W84	0	0	0		25	N03W84	Q	SOLALERT 25 MAGNIL
						N27W55	1	0	0			N27W55	Q	
						S28W45	1	0	0			S28W45	Q	
						S10W32	0	0	0			S10W32	Q	
						S12W21	0	0	0			S12W21	Q	
						N23W02	0	0	0			N23W02	Q	
						N25W67	9	0	0			N25W67	E	
						N11E22	0	0	0			N11E22	Q	
						S12E22	0	0	0			S12E22	Q	
						S22E28	3	0	0			S22E28	E	
						N27E68	0	0	0			N27E68	Q	
						S19E27	8	0	0			S19E27	E	
						N13W64	1	0	0			N13W64	Q	
299	26	25	285	218	015	N27W67	0	0	0		26	N27W67	Q	SOLALERT 26/xx
						S29W57	6	1	0			S29W57	A	MAGQUIET
						S10W49	0	0	0			S10W49	Q	
						S12W33	0	0	0			S12W33	E	
						N23W13	0	0	0			N23W13	Q	
						N25W80	0	0	0			N25W80	Q	
						N10E09	0	0	0			N10E09	Q	
						S12E10	0	0	0			S12E10	Q	
						S22E17	0	0	0			S22E17	Q	
						N27E54	0	0	0			N27E54	Q	
						S18E15	10	1	0			S18E15	A	
						N13W67	2	0	0			N13W67	Q	
						S18W20	0	0	0			S18W20	Q	
						S15W16	0	0	0			S15W16	Q	
						N17E13	1	0	0			N17E13	Q	
						N19E21	0	0	0			N19E21	Q	
300	27	26	249	205	007	N26W79	2	0	0		27	N26W79	Q	SOLALERT 27/28
						S29W71	2	0	0			S29W71	Q	MAGQUIET
						S11W64	0	0	0			S11W64	Q	
						S12W47	0	0	0			S12W47	Q	
						N22W26	0	0	0			N22W26	Q	
						N08W07	0	0	0			N08W07	Q	
						S12W03	0	0	0			S12W03	Q	
						S22E05	0	0	0			S22E05	Q	
						N26E41	0	0	0			N26E41	Q	
						S18E02	6	0	0			S18E02	E	
						S19W33	1	0	0			S19W33	Q	
						S15W30	0	0	0			S15W30	Q	
						N15E01	0	0	0			N15E01	Q	
						N19E77	0	0	0			N19E77	Q	
301	28	27	163	214	008	S11W62	0	0	0		28	S11W62	Q	SOLALERT 28/xx
						N21W37	0	0	0			N21W37	Q	MAGQUIET
						S11W17	0	0	0			S11W17	Q	
						S22W10	0	0	0			S22W10	Q	
						N26E27	0	0	0			N26E27	Q	
						S17W12	2	0	0			S17W12	E	
						N16W16	0	0	0			N16W16	Q	
						N18E70	2	0	0			N18E70	E	
						N16W02	0	0	0			N16W02	Q	
						S17E17	0	0	0			S17E17	Q	
302	29	28	196	214	015	S12W74	0	0	0		29	S12W74	Q	SOLALERT 29/xx
						S12W30	0	0	0			S12W30	Q	MAGQUIET
						N15W28	0	0	0			N15W28	Q	
						S18W24	1	0	0			S18W24	A	
						S22W21	0	0	0			S22W21	Q	
						N14W15	1	0	0			N14W15	Q	
						N35W11	0	0	0			N35W11	Q	
						N26E15	0	0	0			N26E15	Q	
						N19E57	0	0	0			N19E57	E	
						N27E70	0	0	0			N27E70	Q	
						S11E78	0	0	0			S11E78	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

OCTOBER 1979

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	No. of Flares: Total	M	X	Outstanding events	Forecasts: Date	Location Lat-Long	Desc*	Alert Situations
303	30	29	205	214	008	S12W42	0	0	0		30	S12W42	Q	SOLALERT 30/31
						S22W34	0	0	0			S22W34	Q	MAGQUIET
						N27E03	0	0	0			N27E03	Q	
						S19W38	3	0	0			S19W38	Q	
						N15W42	1	0	0			N15W42	Q	
						N18E43	2	0	0			N18E43	E	
						N14W29	0	0	0			N14W29	E	
						N34W25	0	0	0			N34W25	Q	
						S10E64	1	1	0			S10E64	Q	
						N29E58	2	0	0			N29E58	Q	
						N13E69	0	0	0			N13E69	E	
304	31	30	243	221	004	S12W57	0	0	0		31	S12W57	Q	SOLNIL MAGQUIET
						S22W48	0	0	0			S22W48	Q	
						N27W11	0	0	0			N27W11	Q	
						S18W51	0	0	0			S18W51	Q	
						N16W56	0	0	0			N16W56	Q	
						N18E31	4	0	0			N18E31	E	
						N16W42	0	0	0			N16W42	Q	
						S11E51	0	0	0			S11E51	Q	
						N28E42	2	0	0			N28E42	E	
						N12E57	0	0	0			N12E57	Q	
						S13E64	0	0	0			S13E64	Q	
						N25E71	0	0	0			N25E71	Q	
						N14E74	0	0	0			N14E74	Q	
						S28E23	0	0	0			S28E23	Q	
305	01	31	252	220	003	S22W61	0	0	0		01	S22W61	Q	SOLQUIET
						N26W23	0	0	0			N26W23	Q	MAGALERT MINOR 02
						S18W66	0	0	0			S18W66	Q	
						N15W69	3	0	0			N15W69	Q	
						N18E18	2	0	0			N18E18	E	
						N14W56	0	0	0			N14W56	Q	
						S12E37	1	0	0			S12E37	Q	
						N24E28	0	0	0			N24E28	Q	
						N10E43	1	0	0			N10E43	E	
						S16E52	0	0	0			S16E52	Q	
						N24E58	1	0	0			N24E58	Q	
						N13E64	0	0	0			N13E64	Q	
						N14E31	1	0	0			N14E31	Q	
						S28E09	0	0	0			S28E09	Q	
						N13W61	0	0	0			N13W61	Q	
						N16E73	0	0	0			N16E73	Q	

* Q=Quiet E=Eruptive A=Active P=Proton C=Caution D=Doubtful O.G.=Other Groups MF=Major Flare

RELATIVE SUNSPOT NUMBERS

ZURICH, R_z

	1978 FINAL		1979 PROVISIONAL									
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	109	110	158	116	116	131	108	121	158	115	165	213
2	122	110	158	127	138	134	106	152	168	96	141	187
3	125	117	191	148	141	135	103	161	205	121	148	167
4	129	115	157	123	142	138	112	178	219	110	157	156
5	121	104	146	134	135	109	113	207	232	93	139	168
6	108	122	173	146	144	91	122	226	249	104	139	168
7	112	138	163	144	146	77	148	222	223	110	170	179
8	118	148	172	142	143	69	165	220	219	132	192	198
9	108	152	165	139	146	61	162	231	191	115	198	218
10	120	144	163	137	140	87	145	205	163	92	177	178
11	118	170	157	137	156	109	148	186	155	84	167	183
12	99	188	159	138	170	107	158	199	145	87	156	189
13	90	165	159	152	169	113	163	172	142	91	175	211
14	78	150	162	163	159	116	203	149	127	119	186	213
15	59	140	178	161	155	117	207	127	121	135	177	198
16	77	143	164	159	130	119	187	103	114	122	170	185
17	92	146	164	160	142	107	184	122	109	138	155	221
18	93	132	148	162	142	98	148	126	109	157	177	224
19	85	95	138	166	138	79	109	110	135	176	195	221
20	76	84	177	169	120	68	107	111	158	187	191	219
21	68	68	181	171	134	68	114	124	151	218	184	215
22	77	63	178	155	148	79	121	108	152	216	178	198
23	55	59	188	127	139	79	117	96	154	206	219	186
24	61	65	209	99	118	80	119	90	143	203	236	161
25	85	81	209	86	114	85	124	120	144	201	252	153
26	101	93	173	108	114	118	123	132	142	182	261	145
27	118	110	162	97	117	125	118	112	146	189	256	143
28	118	122	157	95	114	132	110	128	132	174	239	142
29	111	135	153		110	132	113	124	148	158	235	191
30	103	159	149		127	120	96	154	158	158	233	197
31		177	130		147		120		144	168		223
MEAN	97.9	122.7	165.8	138.0	137.0	102.8	134.6	150.5	159.6	143.5	188.7	188.2

1978 yearly mean = 92.5

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

	1978		1979									
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	152.8	166.6	194.1*	185.8	168.5	202.6*	180.4	189.5	186.3	149.1	175.8	212.8
2	159.0	167.6	200.1	185.6	170.7	203.4	179.2	206.8*	200.9*	143.9*	180.1	211.5
3	169.9	164.2	203.5*	187.4*	173.3	194.2	164.3	216.1*	213.4	145.1	180.8	204.7
4	177.4	165.3	192.7*	187.7	181.4	183.5	176.8	228.8*	218.1	141.7	175.3*	197.7*
5	181.2	169.5	194.9	197.4	180.1*	179.3	169.6	230.2	204.5	141.6	177.1	192.8*
6	172.2*	164.5	190.9	206.5	182.4	176.3	171.1*	238.1	211.3	149.5	180.4*	195.5
7	174.6	178.5*	186.2	203.4	183.1*	166.7	178.8	238.1	207.2	151.1	186.3	197.8
8	168.8*	189.9	200.1	207.2*	178.9	169.8*	182.4*	242.7	206.7	152.7	183.6	200.3
9	164.9*	189.6	192.6	198.7	181.4	169.6	181.3	247.4*	197.9*	157.3	187.4	209.5
10	166.3	204.7	186.2	198.4*	180.6	173.0	174.7	239.9	185.9	152.1*	184.6	208.7
11	163.7	210.5	179.5	202.2*	181.7*	170.0*	178.6	229.6	178.6	154.4	181.5*	211.8
12	150.4	217.3	174.5	195.4	188.7	174.5	184.2	208.3	178.1	144.8	181.7	216.4
13	145.3	210.6*	193.9	195.4	186.3	175.8	186.6	193.7	161.4	155.8	186.1	239.1
14	136.3	197.0	200.0*	204.2*	189.4	170.9	182.0	185.7	154.7*	158.2*	192.6*	236.4
15	133.8	192.7	192.1*	205.8*	181.3	168.1	181.9	176.0	151.1	167.6	193.8	230.7
16	128.8	180.5	189.9*	209.2	183.5*	171.7	176.4	167.5	143.6	164.8	196.3*	232.3
17	128.1	177.7	175.7	213.1	177.7	168.0	167.7	158.1	142.7	165.8	202.7*	226.0
18	127.4	161.5	177.6	237.7	188.6*	158.7	171.3*	152.6	141.2	180.0	215.7	236.8
19	128.9	152.9	187.8	237.8	177.6	159.4	161.5	146.2	143.6	186.4	218.1*	237.3*
20	134.9	138.1	197.2	230.1*	184.1	156.1	155.6	151.5	146.6	204.2*	213.9*	236.7*
21	126.0	132.1*	210.3	225.1	182.2	161.5	155.7	148.9	143.7*	207.6*	218.4	230.1
22	127.1	132.7	226.9	223.3	181.1	159.7*	156.5*	141.1	155.7	223.2	216.5	221.9
23	121.9	133.4	225.1	196.0	188.5	162.3	156.0	139.0	163.1*	218.6	224.2*	214.9*
24	123.5	135.2*	208.5	182.8	188.3	161.9	159.2*	141.2	168.6	225.2	230.7	225.6*
25	124.7*	138.0	206.1	167.5	188.2	172.5	153.3*	147.8	164.5	229.3*	235.5	215.2
26	132.7	144.2	192.9	166.0	208.2	182.0	149.1	153.7	165.6	223.3	229.9*	202.9
27	144.4*	148.7*	205.4	162.7	187.9	195.1*	149.4	158.5	159.1*	212.8	228.7*	211.2
28	154.1	164.1	209.6	163.6	188.6	192.1*	149.2	159.1	158.1	214.2	233.8	210.8
29	162.2	166.2	209.3		191.4	185.7	150.2	166.9	156.7	197.6	225.8	214.8
30	167.8	181.7	194.1*		186.6	185.2*	158.4	176.7*	160.3	187.8	231.9	213.7*
31		195.1	193.7		201.4*		174.9		152.4	179.9		214.9*
MEAN	148.2	170.8	196.5	199.1	184.8	175.8	168.9	186.8	171.4	177.8	202.3	216.4

* adjusted for burst
A = interpolated data point

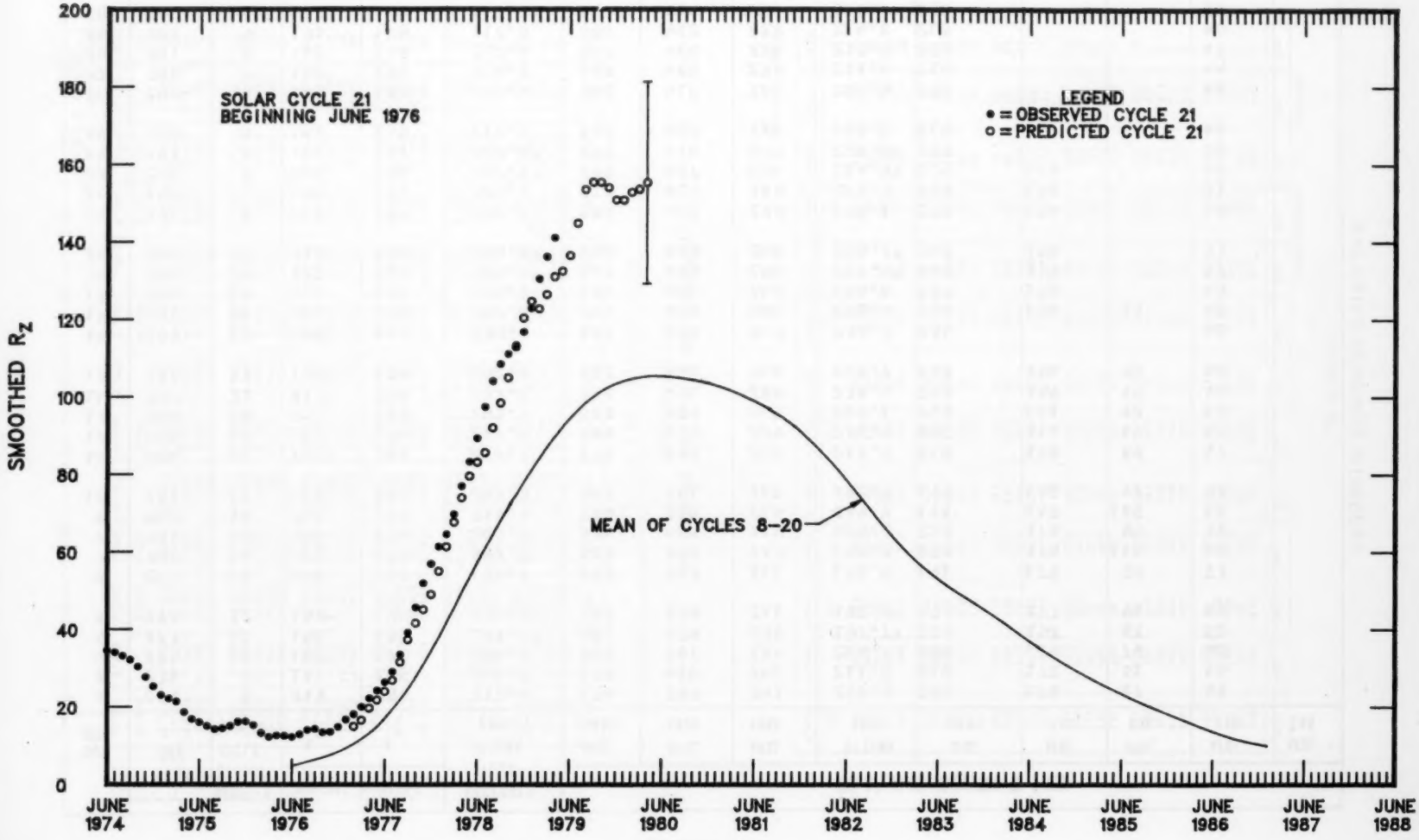
DAILY SOLAR INDICES

OCTOBER 1979

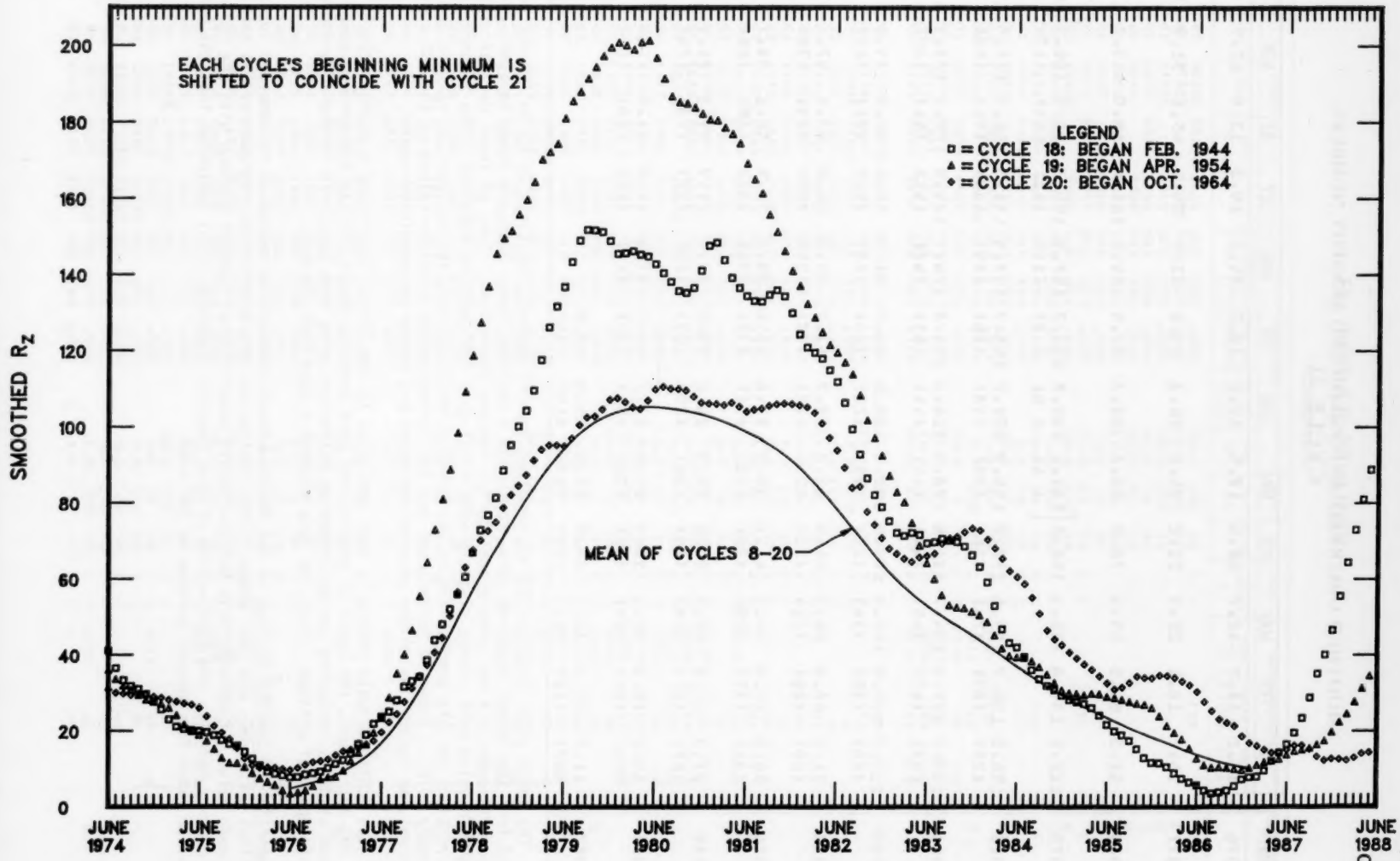
OCT 1979	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245
1	274	8	213	206	212.4	576	399	241	212.8	206	176	87	48	
2	275	9	187	195	211.3	589	405	242	211.5	210	172	81	46	
3	276	10	167	175	204.5	552	387	224	204.7	206	179	79	43	
4	277	11	156	154	197.7*	601	425	235	197.7*	207	157	83	52	
5	278	12	168	155	192.8*	583	398	211	192.8*	192	177	94	51	
6	279	13	168	152	195.7	589	393	211	195.5	191	175	98	53	
7	280	14	179	178	197.2	583	392	217	197.0	203	176	114	48	
8	281	15	190	174	200.7	584	405	219	200.3	210	176	95	52	
9	282	16	210	193	210.1	550	356	214	209.5	198	142	105	50	
10	283	17	178	161	209.3	542	361	212	208.7	199	140	97	38	
11	284	18	183	160	212.7	575	398	229	211.8	219	138	89	47	
12	285	19	189	174	217.3	588	412	229	216.4	226	142	85	42	
13	286	20	211	203	240.3	580	409	249	239.1	240	141	92	59	
14	287	21	213	206	237.6	615	441	250	236.4	242	149	95	44	
15	288	22	198	192	232.1	602	446	248	230.7	243	154	95	48	
16	289	23	185	186	233.9	607	455	247	232.3	234			46	
17	290	24	221	196	227.6	593	456	263	226.0	238	156	93	45	
18	291	25	224	196	238.7	584	441	262	236.8	237	155		45	
19	292	26	221	214	239.2*	617	455	252	237.3*	247	155		57	
20	293	27	219	199	238.8*	606	435	245	236.7*	242	156		51	
21	294	1	215	185	232.2	583	412	233	230.1	223	156		49	
22	295	2	198	172	224.1	578	412	304	221.9	219	150		51	
23	296	3	186	164	217.1*	578	407	224	214.9*	215	154		48	
24	297	4	161	167	228.1*	577	418	237	225.6*	233			50	
25	298	5	153	169	217.8	588	420	228	215.2	219			46	
26	299	6	145	151	205.4	582	415	209	202.9	205			52	
27	300	7	143	131	214.0	585	405	230	211.2	216			44	
28	301	8	142	144	212.8	557	406	228	210.0	220			47	
29	302	9	191	175	217.8	580	412	223	214.8	218			46	
30	303	10	197	193	216.7*	577	414	231	213.7*	223			35	
31	304	11	223	204	218.2*	585	413	234	214.9*	223			50	
MEAN			188.2	178.2	217.9	583	413	235	216.4	219	158	93	48	

* Adjusted for burst.

OBSERVED AND PREDICTED SMOOTHED SUNSPOT NUMBERS



SUPERPOSITION OF CYCLES 18, 19, AND 20



13 Oct 79

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 21

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1976	15.2	13.2	12.2	12.6	12.5	12.2	12.9	14.0	14.3	13.4	13.5	14.8
1977	16.7	18.1	20.0	22.2	24.2	26.3	29.0	33.4	39.1	45.6	51.9	56.9
1978	61.3	64.5	69.6	76.9	83.2	89.3	97.4	104.0	108.4	111.0	113.3	116.7
1979	122.8	130.4	136.1	141.0	144.1	149.0	153.7	157.0	159.3	160.5	160.9*	160.2
					(4)	(6)	(8)	(10)	(11)	(14)	(17)	(19)
1980	158.5	156.7	155.4	155.2	154.3	150.7	146.7	143.4	141.3	140.3	138.9	137.6
	(22)	(23)	(24)	(26)	(29)	(33)	(36)	(39)	(39)	(41)	(42)	(45)
1981	137.7	137.3	134.7	131.6	128.8	126.0	124.8	124.7	124.0	122.7	120.1	116.8
	(47)	(47)	(45)	(44)	(44)	(44)	(43)	(42)	(41)	(41)	(39)	(38)
1982	113.3	109.9	107.5	105.6	103.3	100.8	96.9	91.9	87.4	82.5	79.0	75.4
	(36)	(35)	(34)	(32)	(30)	(28)	(26)	(25)	(24)	(21)	(20)	(20)
1983	71.3	68.4	66.5	64.5	62.3	59.7	57.7	55.9	54.2	53.1	52.3	51.3
	(20)	(20)	(21)	(21)	(21)	(22)	(23)	(25)	(27)	(29)	(30)	(30)
1984	50.0	47.9	44.8	41.1	38.6	37.6	36.6	35.1	33.5	32.1	30.7	29.1
	(31)	(30)	(29)	(29)	(30)	(31)	(32)	(31)	(31)	(29)	(28)	(27)
1985	27.9	27.2	26.5	26.0	25.3	24.2	23.3	22.5	21.7	21.0	20.1	19.4
	(27)	(27)	(26)	(26)	(26)	(25)	(23)	(23)	(22)	(23)	(24)	(24)
1986	19.0	18.2	17.3	16.3	14.9	13.7	12.7	12.1	11.8	11.5	11.4	11.4
	(25)	(24)	(24)	(23)	(22)	(21)	(20)	(19)	(17)	(16)	(15)	(13)
1987	11.7	12.3	13.1	14.2	15.3	16.4	17.6					
	(12)	(12)	(11)	(12)	(13)	(14)	(14)					

The table gives observed Zürich smoothed sunspot numbers for Cycle 21 up to the one calculated from the latest observed data, marked by a vertical bar. They are based on final Zürich numbers through 1978 and provisional Zürich numbers thereafter. Some of these data after the June 1976 value will change slightly when final data for 1979 are received. The numbers after the vertical bar are predictions by the McNish-Lincoln method (see *Explanation of Data Reports*, February 1978). Shown in parentheses are the corresponding absolute values of the 90% confidence interval, an indication of the uncertainty above and below the predicted number.

The McNish-Lincoln method is very sensitive to the identification of a minimum epoch. In SGD 390-401 issues, the Cycle 21 predictions were based on March 1976 as the minimum epoch. Latest studies, including one published by Waldmeier, show that June 1976 is the more appropriate epoch of minimum. Thus, we have adopted a June 1976 mimimum.

*Prediction of Sunspot Maximum -- The McNish-Lincoln prediction method is recommended for predictions up to only one year ahead. From that point, the predictions regress rapidly towards the mean value. Combining this McNish-Lincoln prediction of sunspot maximum with the Ohl method (as done by Sargent, see *Explanation of Data Reports*, February 1979) indicates that the most probable value for sunspot maximum is 160 ± 24.

Hα SOLAR FLARES

OCTOBER 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
ATHN	01	0600E	0601U	0619	S23	W15	.365		28.1	19D	SB	3	C		127		F
ISTA	01	0740E		0805D	N20	W37	.713		26.5	25D	SF						E
ISTA	01	0740E		0816	N16	W52	.834		25.4	36D	1N						E
ISTA	01	0835	0836	0840	N19	W56	.875		25.2	5	SF						D
ISTA	01	0846		0900	N18	W53	.849		25.4	14	1N						U
ISTA	01	0853	0859	0912	N17	W26	.578		27.4	19	SN						D
ISTA	01	0907		0910	N14	E57	.870		5.7	3	SF						D
ATHN	01	0924	0927	0947	N16	W59	.890		25.0	23	SB	3	C		111		F
ISTA	01	0930E		0947	N18	W51	.832		25.6	17D	1B						E
ISTA	01	0945	0947	0959	N14	E38	.685		4.3	14	SN						D
RAMY	01	1136	1136	1149	N17	W53	.845		25.5	13	SN	3	C		46		F
RAMY	01	1444	1446	1532	N14	E60	.893		6.1	48	SF	3	C		17		
HUAN	01	1608		1615	N18	W56	.872		25.5	7	SF	1	C				
BIGB	01	1754	1824	1916	N09	E75	.972		7.4	82	SB	2	C	1824	120		
HUAN	01	1816E		1830D	N12	E74	.970		7.3	14D	SN	1	P	1816	60		E
BIGB	01	1822	1823	1825	N24	W55	.883		25.6	3	SF	2	C	1823	20	.4	
BIGB	01	1826	1827	1831	N20	W57	.885		25.5	5	SF	2	C	1827	60	1.1	
BIGB	01	1926	1928	1945	N28	W58	.914		25.5	19	SB	2	C	1928	60	1.2	
BIGB	01	2131	2133	2148	N20	W63	.925		25.2	17	SB	2	C	2133	80	1.8	
ATHN	02	0937E	0939U	0947	N13	E25	.530		4.3	10D	SB	2	C		48		DE
RAMY	02	1122	1123	1126	S25	W32	.579		28.1	4	SF	3	C		22		
RAMY	02	1201E	1201U	1208	N14	E84	.998		8.8	7D	SB	3	C		8		
RAMY	02	1201	1355	1418	N27	E78	.992		8.4	137	SF	3	C		0		
RAMY	02	1241	1242	1252	S25	W33	.590		28.1	11	SF	3	C		27		
RAMY	02	1336	1337	1350	S28	W50	.783		26.8	14	SF	3	C		20		
RAMY	02	1343	1344	1357	N15	E23	.528		4.3	14	SN	3	C		31		
RAMY	02	1400	1400	1418	N13	E56	.859		6.8	18	SF	3	C		15		
RAMY	02	1437	1446	1604	S28	E26	.533		4.6	87	1N	3	C		182		F
BIGB	02	1442	1458	1715	S29	E24	.521		4.4	153	SB	2	C	1458	140	1.6	
RAMY	02	1442	1443	1446	N13	E55	.850		6.7	4	SF	3	C		21		
BIGB	02	1558	1601	1615	N23	E90	1.001		9.4	17	SN	2	C	1601	40		
BIGB	02	1620	1622	1638	N12	E21	.475		4.3	18	SN	1	C	1622	60	.7	
HUAN	02	1627E		1633D	N13	E22	.497		4.3	6D	SN	1	P	1629	30	.3	E
BIGB	02	1719	1722	1736	S31	E22	.521		4.4	17	SN	1	C	1722	30	.3	
BIGB	02	1742	1743	1758	N22	E85	.999		9.1	16	SN	1	C	1743	60		
BIGB	02	1748	1750	1802	S24	W36	.620		28.0	14	SN	1	C	1750	40	.5	
BIGB	02	1827	1828	1832	N22	W78	.990		24.9	5	SN	2	C	1828	30		
BIGB	02	1850	1852	1905	N22	E85	.999		9.2	15	SN	2	C	1852	60		A
BIGB	02	1938	1940	1953	N22	E89	1.000		9.5	15	SN	2	C	1940	20		
BIGB	02	1944	1945	1959	N12	E62	.903		7.5	15	SF	2	C	1945	60	1.3	
BIGB	02	2031	2034	2053	S17	W40	.646		27.9	22	SF	2	C	2034	40	.5	
BIGB	02	2139	2145	2220	S26	W56	.833		26.7	41	SN	2	C	2145	60	1.1	
BIGB	02	2146	2147	2155	S13	W40	.640		27.9	9	SF	2	C	2147	30	.4	
BIGB	02	2159	2204	2246D	N14	E55	.853		7.0	47D	1B	2	P	2204	170	3.0	
ATHN	03	0834	0837	0850D	S23	W40	.663		28.4	16D	SB	3	C		111		FDE
RAMY	03	1236	1238	1241	N19	E83	.997		9.8	5	SF	3	C		11		DE
RAMY	03	1259	1304	1314	S25	W46	.735		28.1	15	SF	3	C		17		DE
RAMY	03	1401	1403	1417	N13	E 7	.365		4.1	16	SF	3	C		25		FDE
BIGB	03	1810	1812	1825	N15	E90	1.001		10.5	15	SN	1	C	1812	20		
BIGB	03	1828	1831	1839	N22	E72	.972		9.2	11	SN	1	C	1831	10		
PALE	04	0208	0211	0212	N13	W74	.971		26.5	4	SF	3	C		12		F
ISTA	04	0834	0835	0842	N18	E85	.999		10.7	8	SF						E
RAMY	04	1242E	1253	1328	S27	W71	.939		27.2	46D	SN	3	C		0		
RAMY	04	1332	1334	1346	S27	W71	.939		27.2	14	SF	3	C		17		
RAMY	04	1338	1340	1346	N11	E20	.454		6.1	8	SF	3	C		39		
RAMY	04	1423	1426	1438	N20	E66	.942		9.5	15	SB	3	C		29		
RAMY	04	1425E		1458	S27	W71	.939		27.3	33D	SB	3	C		0		FDE
RAMY	04	1510	1512	1545	S27	W71	.939		27.3	35	SF	3	C		0		
BIGB	04	1554	1607	1747	N14	E76	.979		10.4	113	SB	2	C	1607	150		A
BIGB	04	1640	1646	1715	S23	W88	.997		26.1	35	SB	2	C	1646	70		A
BIGB	04	1911	1913	1926	N24	E60	.916		9.3	15	SF	2	C	1913	50	1.0	
RAMY	04	1913	1913	1920	N27	E56	.899		9.0	7	SN	3	C		23		
PALE	04	1928E	1929U	2015D	N17	E71	.962		10.1	47D	SF	2	C		43		
BIGB	04	2103	2113	2135	N24	E62	.927		9.5	32	SB	1	C	2113	40	.9	
RAMY	04	2104	2105	2125D	N27	E60	.923		9.4	21D	SB	3	C		35		
HOLL	04	2104	2105U	2108D	N27	E55	.893		9.0	4D	SN	2	C		44		
PALE	04	2106E	2111	2130D	N25	E59	.912		9.3	24D	SN	3	C		67		F
BIGB	04	2114	2129	2151D	S36	E75	.959		10.5	37D	SF	1	P	2129	80		G
HOLL	04	2127	2131	2135	N18	E68	.949		10.0	8	SF	2	C		25		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
HOLL	04	2130	2141	2143	S31	E71	.940		10.2	13	SF	2	C		0		
HOLL	04	2151	2154	2235	N18	E67	.944		9.9	44	SN	2	C		24		F
PALE	04	2202	2202U	2216D	N26	E58	.909		9.3	14D	SN	3	C		78		F
PALE	04	2237	2253U	2309D	N17	E69	.953		10.1	32D	SF	3	C		56		F
PALE	04	2315	2325	2327D	N17	E69	.953		10.1	12D	1N	3	C		157		F
PALE	05	0202	0205	0255	N15	E63	.915		9.8	53	SN	3	C		64		DE H
PALE	05	0235	0238	0240	S25	W67	.914		28.1	5	SF	3	C		26		
PALE	05	0257	0321	0321D	N17	E65	.931		10.0	24D	1N	3	C		126		DE
PALE	05	0313	0319	0321D	S25	W68	.921		28.0	8D	SF	3	C		23		
HOLL	05	1410E	1421	1452	S28	W86	.993		27.1	42D	1B	3	C		0		
HOLL	05	1607	1609	1612	N27	E44	.816		9.0	5	SF	3	C		30		
HOLL	05	1619	1629	1706D	N18	E57	.880		10.8	47D	SF	3	C		37		
HOLL	05	1657	1701	1706D	N27	E44	.816		9.0	9D	SF	3	C		31		
HOLL	05	1739	1739	1746	N26	E47	.833		9.3	7	SN	3	C		29		
HOLL	05	1840	1844	1905	S29	W86	.993		27.3	25	SF	3	C		0		
HOLL	05	1842	1913	1919	N17	E56	.878		10.0	37	SN	3	C		36		
BIGB	05	2020	2023	2048	N14	E60	.893		10.3	28	SB	2	C	2023	60	1.2	
HOLL	05	2021	2022	2039	N15	E56	.864		10.0	18	SB	3	C		39		DE
HOLL	05	2024	2027	2034	S30	W86	.992		27.4	10	SN	3	C		0		
BIGB	05	2024	2026	2054	S24	W80	.978		27.9	30	SB	1	C	2026	60		
HOLL	05	2041	2103	2113	S15	E38	.616		8.7	32	SF	3	C		40		
HOLL	05	2043	2057	2118	N17	E55	.862		10.0	35	SN	3	C		31		
BIGB	05	2048	2054	2107	S36	E67	.922		10.9	19	SN	1	C	2054	110		
BIGB	05	2053	2057	2126	N15	E56	.864		10.1	33	SN	1	C	2057	40	.7	
PALE	05	2055	2058	2108	N16	E53	.842		9.8	13	SF	3	C		33		F
PALE	05	2057	2107	2109	S16	E39	.631		8.8	12	SF	3	C		23		F
PALE	05	2119	2124	2128	N25	E42	.789		9.0	9	SF	3	C		28		F
PALE	05	2119	2120	2129	N16	E52	.834		9.8	10	SF	3	C		39		F
PALE	05	2141E	2205U	2216	N25	E42	.789		9.1	35D	SF	3	C		24		DE
PALE	05	2141E	2217U	2248	N16	E52	.834		9.8	67D	SF	3	C		55		DE
PALE	05	2154	2159	2217	S25	W78	.971		28.1	23	SF	3	C		15		
HOLL	05	2157	2209	2216	S28	W87	.994		27.4	19	SN	3	C		0		
HOLL	05	2203	2209	2246	N18	E53	.849		9.9	43	SN	3	C		66		
BIGB	05	2205	2212	2244	N15	E55	.856		10.0	39	SN	1	C	2212	80	1.4	
HOLL	05	2209	2212	2233	S32	E61	.880		10.5	24	SN	3	C		52		
BIGB	05	2211	2213	2235	S36	E64	.905		10.7	24	SN	1	C	2213	70	1.6	
PALE	05	2216E	2217U	2238	S33	E63	.895		10.7	22D	SF	3	C		22		DE
PALE	05	2218E	2237U	2306	N25	E41	.780		9.0	48D	SF	3	C		39		DE
BIGB	05	2226	2231	2246	N25	E45	.813		9.3	20	SB	1	C	2231	50	.7	
HOLL	05	2227	2232	2310	N25	E43	.797		9.2	43	SN	3	C		72		
HOLL	05	2349	2351	0000	N26	E40	.778		9.0	11	SN	3	C		31		
ISTA	06	0625E	0631U	0703	N25	E41	.780		9.3	38D	2B						BF
ISTA	06	0708	0710	0728	N14	E42	.729		9.4	28	2B						F
ISTA	06	0743	0748	0825	N25	E39	.764		9.2	42	2B						F
RAMY	06	1401	1402	1411	S23	W48	.751		3.0	10	SN	3	C		19		
RAMY	06	1408	1409	1423	N27	E33	.729		9.1	15	SN	3	C		38		
RAMY	06	1417	1425	1438	S23	W48	.751		3.0	21	SF	3	C		15		
WEND	06	1428E		1443	N25	E34	.722		9.2	15D	SN		V				
WEND	06	1428E		1440	N14	E49	.799		10.3	12D	SF		V				
WEND	06	1454	1500	1506	N14	E49	.799		10.3	12	SN		V				
BIGB	06	1458	1501	1511	N13	E49	.796		10.3	13	SN	1	C	1501	70	1.1	
HOLL	06	1458	1500	1507	N15	E50	.812		10.4	9	SN	3	C		29		
HUAN	06	1500E		1510	N14	E50	.809		10.4	10D	SN	1	P	1502	40	.6	
HUAN	06	1512		1518	N16	E47	.788		10.2	6	SF	1	C				
HUAN	06	1529E		1533D	N18	E53	.849		10.6	4D	SF	1	P	1532	25	.4	
BIGB	06	1754	1755	1826	N25	E35	.730		9.4	32	SN	2	C	1755	50	.6	
HOLL	06	1754	1755	1804	N28	E35	.753		9.4	10	SN	3	C		41		
HUAN	06	1755E		1802	N25	E35	.730		9.4	7D	SN	1	P	1757	40	.5	E
BIGB	06	1859	1900	1911	N13	E49	.796		10.5	12	SF	2	C	1900	20	.3	
BIGB	06	1955	1959	2008	N09	E64	.912		11.6	13	SN	2	C	1959	30	.7	
HUAN	06	1957		2002	N25	E35	.738		9.5	5	SN	1	C	1959	65	.8	E
BIGB	06	1958	1959	2014	N24	E36	.732		9.5	16	SN	2	C	1959	30	.4	
HOLL	06	1958	2000	2012	N27	E35	.745		9.5	14	SB	3	C		61		
BIGB	06	1959	2001	2011	S19	W55	.815		2.7	12	SN	2	C	2001	50	.9	
HOLL	06	2000	2001	2006	S18	W50	.764		3.1	6	SN	3	C		24		
HOLL	06	2026	2028	2037	N27	E36	.753		9.6	11	SB	3	C		90		DE
BIGB	06	2030	2033	2045	S19	W55	.815		2.7	15	SN	2	C	2033	50	.9	
HOLL	06	2032	2032	2037	S18	W50	.764		3.1	5	SN	3	C		18		
BIGB	06	2047	2049	2057	N14	E44	.750		10.2	10	SF	2	C	2049	20	.3	
BIGB	06	2142	2143	2153	N14	E44	.750		10.2	11	SF	2	C	2143	50	.7	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
RAMY	07	1148E	1242	1258	S21	W60	.861		3.0	70D	SN	3	C		35		
RAMY	07	1149	1219	1305	N10	W 6	.313		7.0	76	SN	3	C		117		
RAMY	07	1208	1215	1222	N16	E35	.666		10.1	14	SN	3	C		22		
RAMY	07	1227	1228	1251	N11	E56	.854		11.7	24	SF	3	C		20		
RAMY	07	1310	1321	1337	N11	E56	.854		11.7	27	SF	3	C		32		
RAMY	07	1319	1319	1334	N10	W 8	.326		7.0	15	SF	3	C		25		
RAMY	07	1339	1339	1345	N11	W15	.400		6.4	6	SF	3	C		30		
RAMY	07	1354	1354	1403	N11	W 9	.347		6.9	9	SF	3	C		28		
RAMY	07	1405	1408	1424	S21	W63	.885		2.9	19	1B	3	C		187		DE
HOLL	07	1405	1408	1416D	S19	W59	.852		3.2	11D	1B	2	C		117		DE
RAMY	07	1405	1414	1631	N15	E33	.637		10.1	146	1B	3	C		308		U F
HOLL	07	1406E	1413	1416D	N16	E35	.666		10.2	10D	1B	2	C		225		U F
RAMY	07	1414	1417	1449	N25	E21	.618		9.2	35	SB	3	C		50		FDE
RAMY	07	1433	1434	1439	S21	W61	.869		3.0	6	SF	3	C		16		
RAMY	07	1443	1446	1509	N10	W 8	.326		7.0	26	SN	3	C		34		
BIGB	07	1453	1454	1459	N26	E25	.658		9.5	6	SN	1	C	1454	60	.7	
RAMY	07	1525	1525	1542	N11	E53	.827		11.6	17	SF	3	C		25		
BIGB	07	1529	1530	1546	N15	E46	.774		11.1	17	SB	1	C	1530	80	1.2	
RAMY	07	1529	1529	1600	N13	W47	.776		4.1	31	SN	3	C		57		
BIGB	07	1614	1615	1630	N26	E25	.658		9.6	16	SN	1	C	1615	80	.9	
HOLL	07	1615	1619	1628	N27	E25	.668		9.6	13	SN	3	C		89		DE
BIGB	07	1656	1657	1702	S19	W67	.913		2.7	6	SN	1	C	1657	60		
HOLL	07	1656	1658	1702	S21	W63	.885		3.0	6	SN	3	C		25		
RAMY	07	1656	1656	1702	S20	W63	.885		3.0	6	SN	3	C		28		
RAMY	07	1715	1715	1735	N13	W18	.454		6.4	20	SN	3	C		58		DE
HOLL	07	1715	1715	1729	N14	W18	.466		6.4	14	SN	3	C		54		
HOLL	07	1731	1731	1740	N23	E14	.548		8.8	9	SN	3	C		49		
HOLL	07	1843	1843	1852	N27	E17	.616		9.1	9	SF	3	C		20		
HOLL	07	2058	2059	2111	S20	W66	.906		2.9	13	SN	3	C		11		
RAMY	07	2058	2108	2111	S23	W65	.900		3.0	13	SF	3	C		14		DE
HOLL	07	2116	2122	2136	S19	W65	.899		3.0	20	SB	3	C		38		
RAMY	07	2118	2122	0000D	S20	W65	.899		3.0	162D	SN	3	C		44		DE
BIGB	07	2134	2136	2143	N26	E21	.629		9.5	9	SN	2	C	2136	20	.2	
BIGB	07	2230	2232	2237	N29	E90	1.002		14.7	7	SN	2	C	2232	30		
HOLL	07	2251	2252	2328	S19	W66	.906		3.0	37	SB	3	C		92		
BIGB	07	2251	2254	2311	S18	W70	.932		2.7	20	SB	3	C	2254	70		
BIGB	08	0036	0039	0044D	S18	W70	.932		2.8	8D	SB	3	P	0039	60		
BUCA	08	0815		0825	S23	W70	.932		3.1	10	SF		C	0819	32		D
BUCA	08	0826		0829	S25	W69	.927		3.2	3	SF		C	0826	32		D
RAMY	08	1200E	1209	1217	S20	W69	.926		3.3	17D	SF	3	C		0		
RAMY	08	1201	1206	1208	S30	W56	.839		4.3	7	SF	3	C		14		
RAMY	08	1207	1209	1212	N29	E85	.007		15.6	5	SF	3	C		0		
HOLL	08	1421	1422	1438	S20	W73	.949		3.1	17	SN	3	C		0		
RAMY	08	1509	1510	1514	N24	E85	1.000		15.0	5	SF	3	C		0		
HOLL	08	1509	1509	1538	N22	E85	.999		15.0	29	SF	3	C		0		
HOLL	08	1535	1536	1545	S21	W75	.959		3.0	10	SN	3	C		0		
RAMY	08	1535	1537	1540	S21	W68	.920		3.5	5	SN	3	C		11		
HOLL	08	1637	1648	1704	S21	W74	.954		3.1	27	1N	3	C		0		
RAMY	08	1638	1645	1705	S21	W71	.938		3.4	27	SN	3	C		0		
BIGB	08	1641	1647	1704	S19	W85	.992		2.3	23	SB	3	C	1647	70		A
BIGB	08	1657	1700	1720	N27	E90	1.002		15.5	23	SN	3	C	1700	20		
RAMY	08	1705	1706	1738	N14	W25	.540		6.8	33	SN	3	C		100		F
HOLL	08	1705	1708	1738	N13	W26	.542		6.8	33	SN	3	C		184		
BIGB	08	1705	1708	1730	N14	W26	.551		6.8	25	SN	3	C	1708	100	1.1	
BIGB	08	1719	1723	1730	N19	E80	.993		14.7	11	SN	3	C	1723	50		A
RAMY	08	1721	1723	1730	N21	E90	1.001		15.5	9	SF	3	C		0		
BIGB	08	1852	1857	1903	S18	W85	.993		2.4	11	SB	3	C	1857	30		A
RAMY	08	1853	1857	1904D	S19	W68	.920		3.7	11D	SN	3	C		0		
HOLL	08	1933	1937	2000	S23	W77	.967		3.0	27	1B	3	C		0		
BIGB	08	1935	1937	1952	S19	E85	.992		15.2	17	SB	3	C	1937	70		A
BIGB	08	1954	2001	2006	N25	E90	1.001		15.6	12	SB	3	C	2001	60		
BIGB	08	2048	2049	2052	S18	E87	.996		15.4	4	SB	3	C	2049	20		A
BIGB	08	2310	2314	2319	S17	E90	.999		15.7	9	SN	3	C	2314	20		
BUCA	09	0703		0754	N16	E09	.421		10.0	51	1F		C	0708	322	3.4	
RAMY	09	1141	1144	1155	S12	W57	.832		5.2	14	SN	3	C		27		
RAMY	09	1408	1409	1414	N32	E76	.991		15.3	6	SN	3	C		0		
HOLL	09	1424	1424	1440	S11	W67	.915		4.6	16	SN	2	C		40		
RAMY	09	1431	1435	1455	S13	W10	.198		8.9	24	SN	3	C		30		F
HOLL	09	1453	1455	1458	N10	W47	.765		6.1	5	SF	3	C		24		
RAMY	09	1453	1455	1505	N18	W 0	.426		9.6	12	SF	3	C		40		

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
HOLL	09	1547	1551	1553	S11	W62	.877		5.0	6	SF	3	C		21		
BIGB	09	1646	1648	1658	N14	E83	.996		15.9	12	SB	1	C	1648	40		
RAMY	09	1646	1649	1705	N11	W78	.984		3.8	19	SF	3	C		49		
HOLL	09	1648	1656	1711	S11	W63	.885		5.0	23	SF	3	C		18		
RAMY	09	1706	1709	1715	N11	E27	.537		11.7	9	SF	3	C		25		
BIGB	09	1828	1831	1835	S11	W65	.900		4.9	7	SN	3	C	1831	60		
HOLL	09	1929	1931	1939	N17	E 4	.416		10.1	10	SN	3	C		34		
BIGB	09	2007	2010	2020	N13	W41	.713		6.8	13	SN	2	C	2010	20	.3	
BIGB	09	2120	2121	2132	N27	E75	.985		15.5	12	SN	2	C	2121	20		
BIGB	09	2122	2126	2206	N15	E05	.387		10.3	44	SB	2	C	2126	50	.5	
HOLL	09	2122	2124	2204	N17	E 3	.413		10.1	42	SN	3	C		170		
BIGB	09	2148	2151	2157	N28	E77	.990		15.7	9	SN	3	C	2151	30		
BIGB	09	2317	2318	2324	S10	W78	.934		4.7	7	SN	3	C	2318	40		
BIGB	09	2344	2345	2351	N13	E90	1.000		16.7	7	SF	3	C	2345	40		
WEND	10	1007		1024	N28	E68	.963		15.5	17	SF		V		70		
RAMY	10	1154	1154	1208	N27	W20	.634		9.0	14	SN	3	C		26		F
HOLL	10	1503	1504	1514	N15	W 6	.391		10.2	11	SF	3	C		72		
RAMY	10	1504	1504	1517	N15	W 7	.396		10.1	13	SN	3	C		120		F
RAMY	10	1531	1531	1543	S15	W26	.448		8.7	12	SF	3	C		22		
HOLL	10	1540	1545	1604	N29	E57	.911		14.9	24	SF	3	C		57		
RAMY	10	1540	1540	1601	N30	E64	.950		15.5	21	SN	3	C		25		
BIGB	10	1540	1542	1556	N27	E68	.962		15.8	16	SN	3	C	1542	40		
RAMY	10	1552	1553	1601	S14	W27	.460		8.6	9	SF	3	C		30		
HOLL	10	1703	1704	1714	N11	E13	.380		11.7	11	SF	3	C		25		
HOLL	10	1722	1724	1732	N19	W 4	.447		10.4	10	SN	3	C		93		
HOLL	10	1737	1745	1748	N30	E65	.954		15.6	11	SF	3	C		30		
BIGB	10	1905	1906	1919	N10	E13	.367		11.8	14	SF	3	C	1906	30	.3	
HOLL	10	1913	1944U	2011	N32	E63	.949		15.5	58	SN	3	C		43		
HOLL	10	2035	2045	2108	N16	W 8	.416		10.3	33	SF	3	C		36		
HOLL	10	2120	2120	2133	S16	W28	.481		8.8	13	SF	3	C		20		
HOLL	10	2259	2308	2359	N16	W13	.447		10.0	60	SN	3	C		86		F
HOLL	10	2323	2325	2354	S12	W33	.543		8.5	31	SF	3	C		25		
HOLL	10	2333	2334	2343	N11	E10	.355		11.7	10	SN	3	C		36		
HOLL	10	2348	2348	2355	N10	E10	.341		11.7	7	SN	3	C		52		
HOLL	11	0001	0001	0011	N11	W56	.854		6.8	10	SN	2	C		22		
MANI	11	0008E	0010	0020D	N15	W13	.434		10.0	12D	SF	3	C		25		
HOLL	11	0008	0015	0016D	N15	W14	.442		10.0	8D	SF	2	C		31		
MANI	11	0105E	0106	0115D	N26	W26	.666		9.1	10D	SF	3	C		15		
ATHN	11	0651	0653	0725	N11	E02	.315		11.4	34	SN	1		0653	147	1.4	
WEND	11	0655E		0726	N13	W03	.349		11.1	31D	1N		V		250	2.7	B
WEND	11	0712		0723	N27	W33	.729		8.8	11	SF		V				D
WEND	11	1146E		1203	N14	W04	.368		11.2	17D	SN		V		150	1.6	
RAMY	11	1146	1146	1220	N12	W 3	.333		11.3	34	SN	3	C		81		
WEND	11	1155	1207	1226	N09	E64	.912		16.3	31	1N		V		100	2.4	
RAMY	11	1258	1258	1304	S14	W39	.628		8.6	6	SN	3	C		21		
WEND	11	1302		1338	N16	W16	.471		10.3	36	1N		V		450	5.0	FL
RAMY	11	1302	1310	1402	N15	W15	.450		10.4	60	1N	3	C		268		F
HOLL	11	1336	1346	1356	N14	W17	.456		10.3	20	SF	3	C		27		
RAMY	11	1356	1357	1401	S32	E39	.693		14.5	5	SF	3	C		16		
RAMY	11	1419	1422	1455	N29	E48	.854		15.2	36	SN	3	C		44		F
HOLL	11	1421	1421	1432	N31	E52	.889		15.5	11	SN	3	C		16		
BIGB	11	1515	1517	1530	N31	W57	.917		7.4	15	SN	1	C	1517	30	.6	G
RAMY	11	1547	1550	1625	N12	E 1	.330		11.7	38	SF	3	C		101		
HOLL	11	1836	1839	1918	N11	W 4	.320		11.5	42	SN	3	C		106		F
HOLL	11	2000	2003	2018	N11	E60	.886		16.3	18	SN	3	C		29		
RAMY	11	2043	2045	2057	N29	E46	.841		15.3	14	SN	3	C		34		
RAMY	11	2050	2100	2117	N21	W41	.757		8.8	27	SN	3	C		59		
RAMY	11	2058	2058	2118	N29	E45	.834		15.2	20	SN	3	C		377		
HOLL	11	2123	2157	2231	N10	E57	.860		16.2	68	SN	3	C		58		F
HOLL	11	2202	2209	2231	N30	E46	.846		15.4	29	SN	3	C		42		
HOLL	11	2253	2300	2348	S15	W45	.704		8.6	55	SB	3	C		71		U
HOLL	11	2259	2328	0009D	N14	W 7	.380		11.4	70D	1B	3	C		345		U
WEND	12	0744		0758	S35	E29	.622		14.5	14	SN		V				
WEND	12	1042E		1109	N28	E30	.715		14.7	27D	1N		V	1046	180	2.4	
RAMY	12	1206	1208	1219	N10	W 6	.313		12.1	13	SB	3	C		100		
WEND	12	1210		1219	N11	W04	.320		12.2	9	SF		V				
RAMY	12	1331	1334	1355	N16	W35	.665		9.9	24	SF	3	C		41		
RAMY	12	1627	1641	1648	N17	W33	.651		10.2	21	SB	3	C		21		
BIGB	12	1827	1832	1905	S14	W56	.823		8.6	38	SN	3	C	1832	80	1.5	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
HUAN	12	1827		1846D	S16	W55	.813		8.6	19D	SN	1	P	1831	35		E
BIGB	12	1936	1938	2026	N31	E51	.882		16.6	50	SN	3	C	1938	110	1.8	G
PALE	12	1951	1951	2003D	N34	E59	.936		17.3	12D	SF	3	C		36		DE
PALE	12	2035	2055U	2057D	N27	E32	.721		15.3	22D	SF	2	C		91		F
BIGB	12	2037	2102	2210	N27	E34	.737		15.4	93	SB	3	C	2102	130	1.6	
BIGB	12	2126	2143	2231	N08	E60	.881		17.4	65	SN	3	C	2143	90	1.8	
BIGB	12	2300	2328	2359D	N15	W05	.387		12.6	59D	SN	3	P	2328	110	1.1	
MANI	12	2330E	2330U	0020D	N15	W31	.615		10.7	50D	SF	2	C		60		
ATHN	13	0855E	0855	0900D	N17	W37	.693		10.6	5D	SN	1		0855	125	1.3	
ISTA	13	0856	0857	0900	N11	W15	.399		12.2	4	SN						D
RAMY	13	1122	1123	1141	N15	W41	.723		10.4	19	SF	3	C		23		
RAMY	13	1150	1207	1351	N15	W42	.733		10.3	121	SN	3	C		67		
RAMY	13	1200	1200	1227	S22	W88	.997		6.9	27	SF	3	C		0		
RAMY	13	1238	1318	1321D	S17	W69	.926		8.4	43D	SB	3	C		0		FDE
RAMY	13	1247	1248	1300	S32	E13	.463		14.5	13	SN	3	C		21		
RAMY	13	1317	1317	1353	N31	E46	.850		17.0	36	SF	3	C		30		
RAMY	13	1332	1339	1422	N28	E22	.658		15.2	50	SB	3	C		86		FDE
RAMY	13	1352	1442	1711	N14	W41	.718		10.5	199	SB	3	C		85		
HOLL	13	1411E	1500	1623	N13	W48	.786		10.0	132D	SN	2	C		151		F
RAMY	13	1443	1444	1504	S15	W72	.944		8.2	21	SF	3	C		0		
HUAN	13	1450		1535	N15	W49	.803		9.9	45	SF	1	C	1456	20	.3	D
HOLL	13	1451	1453	1500	S17	W69	.926		8.4	9	SF	2	C		19		
BIGB	13	1452	1502	1558	N16	W50	.816		9.9	66	SB	2	C	1502	50	.8	
HOLL	13	1631	1643	1649	N12	W41	.708		10.6	18	SN	3	C		32		F
BIGB	13	1634	1635	1647	N27	E30	.705		15.9	13	SN	2	C	1635	30	.4	
HOLL	13	1635	1636	1643	N29	E28	.709		15.8	8	SB	3	C		37		
RAMY	13	1635	1636	1650	N29	E21	.662		15.3	15	SN	3	C		39		
HOLL	13	1704	1714	1828	S17	W69	.926		8.5	84	SN	3	C		0		
HUAN	13	1705		1709	N14	W41	.718		10.6	4	SF	1	C				
BIGB	13	1706	1707	1712	N16	W42	.739		10.6	6	SF	2	C	1707	30	.4	
BIGB	13	1710	1716	1724	S15	W70	.933		8.5	14	SN	2	C	1716	60		
HOLL	13	1713	1730	1735	N14	W40	.707		10.7	22	SN	3	C		36		
HUAN	13	1717		1723	N13	W43	.734		10.5	6	SF	1	C				
PALE	13	1729E	1729U	1732	N14	W49	.799		10.1	3D	SF	3	C		21		DE
HOLL	13	1736	1736	1750	N12	W42	.719		10.6	14	SN	3	C		23		F
RAMY	13	1752	1752	1809	N13	W44	.745		10.4	17	SN	3	C		24		
PALE	13	1820	1835	1837	N14	W49	.799		10.1	17	SN	3	C		108		F
RAMY	13	1821	1835	1853	N13	W44	.745		10.5	32	SN	3	C		122		
HOLL	13	1823	1824	1829	N12	W49	.792		10.1	6	SN	3	C		21		
RAMY	13	1938	1939	1942	S17	W71	.938		8.5	4	SF	3	C		16		
PALE	13	1958E	1958U	2003D	S15	W76	.964		8.1	5D	SF	3	C		0		F
HOLL	13	2000	2004	2015	N29	E27	.702		15.9	15	SB	3	C		77		
BIGB	13	2001E	2003U	2016	N28	W28	.700		11.7	15D	SN	1	P	2003	1 60	.7	
BIGB	13	2002	2004	2038	S14	W75	.960		8.2	36	SN	1	C	2004	80		
RAMY	13	2005	2008	2020	N28	E25	.678		15.7	15	SB	3	C		29		
PALE	13	2026E	2026U	2027	N14	W50	.809		10.1	1D	SF	3	C		26		F
BIGB	13	2227	2233	2300	S13	W75	.960		8.3	33	SN	1	C	2233	90		
MANI	14	0120	0128	0151D	N13	W48	.786		10.5	31D	SN	3	C		150		F
ISTA	14	0630E		0800	N26	E86	1.000		20.7	90D	1N						BF
ISTA	14	0651	0653	0704	N28	E20	.645		15.8	13	SB						UV
ATHN	14	0656	0659	0712	N27	E19	.627		15.7	16	SB	3	C		32		DE
ISTA	14	0656	0659	0715	N14	W49	.799		10.6	19	1B						UV
ATHN	14	0658	0700	0719	N13	W51	.814		10.5	21	SB	1		0700	114	1.7	
RAMY	14	1115	1218	1324	N30	E33	.753		16.9	129	SB	3	C		68		
RAMY	14	1146	1150	1220	N26	E72	.975		19.9	34	1F	3	C		111		
RAMY	14	1150	1153	1204	S17	W80	.980		8.5	14	SF	3	C		23		
RAMY	14	1201	1203	1231	N13	W55	.850		10.4	30	SB	3	C		50		
RAMY	14	1211	1213	1228	S17	W80	.980		8.5	17	SF	3	C		11		
RAMY	14	1246	1250	1328	N13	W61	.898		10.0	42	SN	3	C		16		
HUAN	14	1254	1304	1312	N32	E42	.829		17.7	18	SN	1	C	1304	35	.5	
HUAN	14	1314	1316	1324	N25	E87	1.000		21.1	10	SN	1	C	1316	45		E
RAMY	14	1314	1315	1328	N26	E71	.972		19.9	14	SB	3	C		42		Y
ATHN	14	1314	1318	1327	N24	E75	.983		20.2	13	SB	3	C		64		F
RAMY	14	1412	1414	1420	N12	W56	.856		10.4	8	SN	3	C		28		
RAMY	14	1414	1418	1430	S 6	W81	.986		8.5	16	1N	3	C		94		
RAMY	14	1416	1418	1430	S17	W81	.983		8.5	14	SF	3	C		50		
BIGB	14	1510	1537	1604	N25	E85	1.000		21.0	54	SN	1	C	1537	90		A
HUAN	14	1534		1538D	N33	E31	.764		17.0	4D	SF	1	P				D
HOLL	14	1536	1554U	1611D	N33	E38	.809		17.5	35D	SN	2	C		144		F
HUAN	14	1537		1538D	N25	E87	1.000		21.2	1D	SF	1	P				

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
RAMY	14	1537	1541	1545	N26	E74	.982		20.2	8	SF	3	C		0		Y
HOLL	14	1537	1538	1544	N27	E76	.988		20.4	7	SF	2	C		38		
RAMY	14	1553	1555	1601	N31	E32	.754		17.1	8	SN	3	C		55		
BIGB	14	1553	1554	1604	N31	E40	.810		17.7	11	SN	2	C	1554	40	.5	
BIGB	14	1626	1627	1629	N31	E40	.810		17.7	3	SF	2	C	1627	20	.3	
RAMY	14	1628	1628	1648	N31	E33	.761		17.2	20	SN	3	C		28		F
BIGB	14	1710	1711	1717	N24	E85	1.000		21.1	7	SB	2	C	1711	30		
RAMY	14	1720	1721	1735	N32	E36	.789		17.4	15	SB	3	C		95		FDE
BIGB	14	1720	1721	1731	N31	E39	.803		17.6	11	SN	2	C	1721	30	.4	
PALE	14	1720E	1720	1735	N31	E35	.775		17.3	15D	SN	3	C		101		FDE
HOLL	14	1722E	1726U	1731D	N32	E36	.789		17.4	9D	SB	2	C		93		DE
PALE	14	1758	1801	1830	N26	E79	.993		20.7	32	SN	3	C		0		FDE
BIGB	14	1758	1801	1807	N25	E85	1.000		21.1	9	SN	2	C	1801	70		
HOLL	14	1758	1802	1822	N28	E75	.986		20.4	24	SB	3	C		0		
HOLL	14	1801	1803	1817	N28	E 9	.591		15.4	16	SN	3	C		64		U
HOLL	14	1825	1829	1833	N30	E76	.989		20.5	8	SF	3	C		0		
BIGB	14	1848	1853	1909	N23	W55	.880		10.7	21	SN	2	C	1853	60	1.1	
PALE	14	1919	1924	1933	N26	E80	.995		20.8	14	SF	3	C		0		DE
BIGB	14	1919	1924	1945	N25	E80	.995		20.8	26	SN	2	C	1924	60		
HOLL	14	1920	1922	1939	N28	E76	.988		20.5	19	SN	3	C		0		
HOLL	14	1945	1945	1954	N15	W61	.902		10.2	9	SN	3	C		33		
BIGB	14	1945	1946	1953	N16	W64	.924		10.0	8	SN	2	C	1946	30	.7	
HOLL	14	1948	1950	2001	N29	E76	.989		20.5	13	SN	3	C		0		
BIGB	14	2014	2018	2032	N25	E80	.995		20.8	18	SN	2	C	2018	20		
BIGB	14	2124	2125	2130	N25	E80	.995		20.9	6	SF	2	C	2125	20		
BIGB	14	2140	2146	2227	N25	E80	.995		20.9	47	SN	2	C	2146	30		
PALE	14	2146E	2147U	2152	N26	E78	.991		20.8	6D	SF	3	C		0		DE
BIGB	14	2259	2300	2307	N25	E80	.995		21.0	8	SN	2	C	2300	30		
BIGB	14	2309	2345	0011	N24	E80	.994		21.0	62	SB	2	C	2345	30		
BIGB	14	2323	2327	2333	N30	E15	.641		16.1	10	SN	2	C	2327	30	.3	
MANI	14	2323E	2325U	2336	N28	E12	.603		15.9	13D	SF	2	C		50		
HOLL	14	2323	2328	2335	N32	E12	.654		15.9	12	SB	3	C		69		DE H
PALE	14	2324E	2328U	2334D	N30	E14	.637		16.0	10D	SN	3	C		80		
BIGB	15	0012	0017	0034D	N25	E78	.991		20.9	22D	SN	2	P	0017	40		
BIGB	15	0014	0016	0024	S28	E07	.372		15.5	10	SF	2	C	0016	90	.9	
MANI	15	0624E	0625	0638D	N29	E 8	.602		15.9	14D	SF	3	C		25		
ISTA	15	0625E		0647	N28	E03	.578		15.5	22D	SN						D
ISTA	15	0625E		0738	S15	W90	.999		8.5	73D	1N						A
ISTA	15	0639		0645	N26	E65	.947		20.2	6	SF						D
ISTA	15	0734		0740	N27	E01	.562		15.4	6	SF						E
RAMY	15	1219	1227	1302	N31	E24	.702		17.3	43	SN	3	C		45		
RAMY	15	1343	1347	1402	N32	E22	.700		17.2	19	SF	3	C		36		
RAMY	15	1409	1429	1544	N28	E64	.946		20.4	95	SN	3	C		35		
BIGB	15	1451	1458	1502	N31	E05	.622		16.0	11	SN	2	C	1458	50	.5	
RAMY	15	1452	1452	1505	N31	E 3	.619		15.8	13	SB	3	C		29		
HOLL	15	1452	1453	1505	N31	E 3	.619		15.8	13	SB	3	C		55		
BIGB	15	1551	1552	1557	N26	W85	1.000		9.3	6	SN	2	C	1552	20		
RAMY	15	1556	1611	1620D	N28	E63	.941		20.4	24D	SN	3	C		21		
BIGB	15	1613	1616	1704	N26	E67	.956		20.7	51	SN	2	C	1616	40		
BIGB	15	1751	1754	1817	N27	W85	1.000		9.4	26	SB	3	C	1754	40		A
HOLL	15	1847	1908	1920	N33	E18	.690		17.1	33	SB	3	C		93		DE
PALE	15	1900E	1907	1942D	N32	E21	.695		17.4	42D	SN	3	C		90		F
BIGB	15	1905	1906	1927	N31	E21	.684		17.4	22	SN	3	C	1906	50	.5	
BIGB	15	1920	1925	1934	N27	W85	1.000		9.4	14	SB	3	C	1925	30		A
BIGB	15	2007	2009	2023	N26	E65	.947		20.7	16	SN	3	C	2009	40		
PALE	15	2027E	2033U	2051D	N28	E62	.936		20.5	24D	SF	3	C		40		F
BIGB	15	2027	2034	2107	N26	E65	.947		20.7	40	SN	3	C	2034	40		
PALE	15	2058E	2058U	2109D	N27	W 5	.567		15.5	11D	SF	3	C		26		DE
PALE	15	2058E	2122	2152D	N32	E19	.684		17.3	54D	SF	3	C		41		F
BIGB	15	2106	2109	2119	N27	W90	1.002		9.1	13	SN	3	C	2109	20		
PALE	15	2145	2159	2200D	N26	E63	.937		20.6	15D	SF	3	C		31		F
BIGB	15	2154	2201	2215	N26	E65	.947		20.8	21	SN	3	C	2201	40		
PALE	15	2236E	2243U	2244	N26	E62	.931		20.6	8D	SF	3	C		13		
PALE	15	2258	2300U	2312	N27	E63	.939		20.7	14	SN	3	C		20		F
BIGB	16	0020	0027	0044D	N23	W67	.951		11.0	24D	SN	1	P	0027	70		
PALE	16	0025	0027	0045	N21	W66	.943		11.1	20	SF	3	C		36		F
PALE	16	0044	0046	0107	N26	E61	.926		20.6	23	SF	3	C		17		F
ISTA	16	0800		0825	N28	W09	.591		15.7	25	SF						D
RAMY	16	1204	1207	1313	N26	W13	.580		15.5	69	1B	3	C		205		FDE
RAMY	16	1419	1424	1437	N28	E51	.870		20.4	18	SN	3	C		30		F

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
HOLL	16	1419	1425	1438	N28	E53	.883		20.6	19	SN	3	C		53		
HOLL	16	1448	1455	1601	N16	E 2	.394		16.8	73	SB	3	C		112		UDE
BIGB	16	1451	1458	1544	N17	E02	.410		16.8	53	SN	2	C	1458	110	1.1	
RAMY	16	1452	1458	1553	N17	E 2	.410		16.8	61	1N	3	C		265		U F
HOLL	16	1638	1645	1733	N28	W14	.611		15.6	55	SF	3	C		85		
RAMY	16	1638	1638	1652	N27	W13	.593		15.7	14	SN	3	C		55		F
BIGB	16	1642	1646	1659	N26	E56	.896		20.9	17	SF	2	C	1646	40	.7	
HOLL	16	1643	1650	1706	N29	E52	.881		20.6	23	SN	3	C		33		
HOLL	16	1645	1648	1658	N15	W 3	.380		16.5	13	SF	3	C		28		
HOLL	16	1727	1732	1920	N29	E49	.861		20.4	113	SB	3	C		40		F
HOLL	16	1727	1803	1920	N29	E49	.861		20.4	113	SB	3	C		106		F
PALE	16	1821E	1830	1902	N28	E50	.863		20.5	41D	SN	3	C		30		F
BIGB	16	2002E	2011	2022	N25	E56	.893		21.0	20D	SN	1	P	2011	30	.6	
BIGB	16	2009	2016	2033D	S18	W70	.932		11.6	24D	SN	1	P	2016	40		
PALE	16	2009E	2024U	2032	S11	E81	.984		22.9	23D	SF	3	C		15		
PALE	16	2017	2022	2047	S 6	E26	.436		18.8	30	SF	3	C		32		
PALE	16	2058	2100	2211	S20	W70	.932		11.6	73	SF	3	C		12		
HOLL	16	2239	2239	2317	S 5	E30	.499		19.2	38	SN	3	C		55		F
PALE	16	2319	2321	2325	N27	E48	.845		20.6	6	SF	3	C		76		
PALE	16	2319	2322	2324	N31	E 5	.622		17.3	5	SF	3	C		51		F
PALE	16	2321	2329	2340	S21	W74	.954		11.4	19	SF	3	C		18		
PALE	17	0038	0046	0128	N26	E43	.802		20.3	50	1N	3	C		239		ZDE
PALE	17	0218	0219	0221	N 7	E36	.624		19.8	3	SF	3	C		24		
ATHN	17	0652	0658	0738	N28	E45	.828		20.7	46	1B	4	C		222		DE
KODA	17	0702E	0702	0730	N27	E43	.807		20.5	28D	2N		P	0706	974	10.0	E
RAMY	17	1136	1139	1200	N30	W 1	.604		17.4	24	SB	3	C		79		FDE
ATHN	17	1138E	1141	1215	N31	E 0	.617		17.5	37D	SB	4	C		111		DE
ATHN	17	1144	1149	1152D	N31	E 0	.617		17.5	8D	SB	3	C		95		DE
RAMY	17	1211	1212	1217	N31	W 2	.618		17.4	6	SF	3	C		21		
RAMY	17	1240	1247	1500	N31	W 4	.620		17.2	140	SB	3	C		92		FDE
ATHN	17	1244	1249	1313	N31	E 0	.617		17.5	29	SB	3	C		95		DE
RAMY	17	1329	1329	1337	N28	E39	.783		20.5	8	SN	3	C		21		F
HOLL	17	1407	1411	1424	N30	W 4	.606		17.3	17	SN	3	C		51		F
HOLL	17	1432	1435	1440	N30	W 4	.606		17.3	8	SN	3	C		89		F
RAMY	17	1441	1441	1516	N27	W27	.682		15.6	35	SN	3	C		22		F
RAMY	17	1538	1603	1613	S10	E80	.982		23.7	35	SF	3	C		0		
BIGB	17	1550	1554	1608	S14	E89	.999		24.3	18	SB	2	C	1554	40	1.3	
RAMY	17	1553	1605	1610D	N31	W 6	.623		17.2	17D	1B	3	C		300		FDE
BIGB	17	1600	1604	1642	N31	W01	.618		17.6	42	SN	2	C	1604	130	1.3	
BIGB	17	1614	1617	1621	S13	E89	.999		24.4	7	SN	2	C	1617	30		
BIGB	17	1623	1624	1631	S07	E14	.240		18.7	8	SN	2	C	1624	50	.5	
BIGB	17	1639	1640	1648	S13	E89	.999		24.4	9	SN	2	C	1640	30		A
BIGB	17	1701	1706	1714	S13	E89	.999		24.4	13	SN	2	C	1706	30		A
HOLL	17	1743	1744	1750	N30	W23	.685		16.0	7	SB	3	C		38		
BIGB	17	1743	1744	1751	N31	W21	.683		16.2	8	SN	2	C	1744	10	1.4	
BIGB	17	1752	1753	1808	S13	E89	.999		24.4	16	SB	2	C	1753	30		
BIGB	17	1905	1911	1923	S13	E85	.994		24.2	18	SN	3	C	1911	40		
BIGB	17	1923	1925	1930	N36	W07	.690		17.3	7	SN	3	C	1925	30	.3	
BIGB	17	1930	1931	1939	S13	E85	.994		24.2	9	SB	3	C	1931	20		
HOLL	17	1935	1936	2001	S 5	E17	.293		19.1	26	SF	2	C		50		F
BIGB	17	1936	1938	2010	S07	E17	.290		19.1	34	SF	3	C	1938	60	.6	
RAMY	17	1936	1937	1939D	S 4	E16	.279		19.0	30	SF	3	C		22		
HUAN	17	1952E		2000D	S06	E18	.308		19.2	8D	SF	1	P				D
BIGB	17	2009	2012	2016	N32	W25	.717		16.0	7	SF	2	C	2012	50	.6	
HOLL	17	2047	2049	2055	N32	W 6	.637		17.4	8	SF	3	C		25		
HOLL	17	2156	2156	2218	N32	W 7	.639		17.4	22	SB	3	C		23		F
HOLL	17	2234	2234	2248	S16	W 2	.158		17.8	14	SF	2	C		26		
HOLL	17	2242	2242	2258	N28	E37	.767		20.7	16	SF	2	C		24		
HOLL	17	2318	2320	2329	N31	W11	.637		17.1	11	SN	2	C		26		
HANI	18	0028E	0030	0048	N20	E31	.653		20.3	20D	SN	3	V		80	1.0	F
ATHN	18	0906	0915	0955	N25	E28	.671		20.5	49	SB	3	C		143		FDE
KODA	18	0925	0938	0948	N26	E27	.672		20.4	23	2F		P	0934	916	9.4	
ATHN	18	0950E	0953	0959	N31	W11	.637		17.6	9D	SN	1		0953	98	1.1	
ATHN	18	1010	1012	1050	N25	E34	.721		21.0	40	SN	1		1012	98	1.1	
RAMY	18	1304	1306	1320	S16	W23	.410		16.8	16	SF	3	C		34		
RAMY	18	1342	1401	1412	S11	E69	.928		23.7	30	SF	3	C		30		
RAMY	18	1348	1352	1405	N30	W34	.759		16.0	17	SB	3	C		38		
ATHN	18	1350E	1354U	1400D	N28	W33	.736		16.1	10D	SB	2	C		80		DE
HUAN	18	1359		1405	S13	E73	.951		24.1	6	SF	1	C				D
RAMY	18	1412	1622	1641	S11	E67	.915		23.6	149	SN	3	C		19		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
RAMY	18	1438	1442	1453	N32	W22	.699		17.0	15	SN	3	C		45		F H
HUAN	18	1439E		1440D	N35	W21	.726		17.0	1D	SN	1	P				E
RAMY	18	1506	1506	1513	N31	W18	.667		17.3	7	SB	3	C		25		
RAMY	18	1520	1529	1603	N27	W40	.784		15.6	43	SN	3	C		95		
BIGB	18	1744	1746	1751	S14	E66	.907		23.7	7	SB	2	C	1746	50		
RAMY	18	1745	1746	1753	S10	E65	.901		23.6	8	SN	3	C		70		
KODA	19	0419E	0419	0444	N26	E21	.627		20.8	25D	2F		V	0419			E
RAMY	19	1154	1157	1158D	N28	E12	.601		20.4	4D	1B	3	C		380		FDE
WEND	19	1248E		1325	N28	E14	.610		20.6	37D	1N		V	1302	420	5.0	BF
RAMY	19	1316	1316	1325	S17	W23	.415		17.8	9	SF	3	C		20		
HUAN	19	1327E		1336D	N26	E11	.578		20.4	11D	SF	1	P				
WEND	19	1430		1501	N34	W39	.821		16.7	31	1N		V	1448	200	3.2	D
HUAN	19	1431	1440	1507	N34	W40	.828		16.6	36	SN	2	C	1440	50	.7	
RAMY	19	1435	1439	1510	N32	W41	.822		16.5	35	SB	3	C		62		
HUAN	19	1500	1502	1504	N29	E13	.618		20.6	4	SF	1	C	1502	20	.2	D
BIGB	19	1620	1621	1633	N28	E13	.605		20.7	13	SN	2	C	1621	50	.5	
RAMY	19	1621	1621	1633	N26	E10	.566		20.4	12	SB	3	C		63		F
BIGB	19	1752	1753	1758	N33	W34	.782		17.2	6	SN	1	C	1753	40	.5	
BIGB	19	1828	1830	1844	S14	E55	.813		23.9	16	SN	1	C	1830	70	1.3	
PALE	19	1901	1902	1905	N31	W32	.753		17.4	4	SF	3	C		22		DE
RAMY	19	1909	1912	1917	S 7	W13	.223		18.8	8	SF	3	C		23		
PALE	19	1914	1914	1916	S 7	W12	.206		18.9	2	SF	3	C		52		DE
PALE	19	1920	1921	1922	N26	E13	.579		20.8	2	SF	3	C		23		
PALE	19	1920	1923	1925	N30	W30	.731		17.6	5	SF	3	C		20		F
PALE	19	1940	1943	1959	N29	E10	.607		20.6	19	SN	3	C		103		FDE
RAMY	19	1940	1941	1956	N29	E10	.607		20.6	16	SN	3	C		53		
BIGB	19	1946E	1948	2020	N27	E14	.597		20.9	34D	SN	1	P	1948	110	1.2	
PALE	19	2011E	2017	2024	S12	E36	.585		22.5	13D	SF	3	C		25		DE
PALE	19	2011E	2027	2100	N31	W31	.746		17.5	49D	SN	3	C		106		FDE
BIGB	19	2019E	2025	2058	N33	W30	.757		17.6	39D	SN	1	P	2025	70	.8	
HUAN	19	2036E		2041D	N31	W32	.753		17.5	5D	SN	1	P	2037	40	.5	E
PALE	19	2316E	2316U	2339D	N26	E 9	.562		20.6	23D	SN	3	C		150		F
KODA	20	0554E	0557	0628	N26	E03	.547		20.5	34D	2N		P	0600	713	7.4	E
WEND	20	0944		1010D	N27	E01	.560		20.5	26D	SF		V		160	1.9	T
ATHN	20	0958E	0952U	1013	N25	E 9	.548		21.1	23D	SB	3	C		48		DE
WEND	20	1118		1130	N31	W60	.932		16.0	12	1F		V		140	3.4	Z
WEND	20	1151	1155	1248	N27	E01	.560		20.6	57	1N		V	1202	440	5.1	T
RAMY	20	1152	1155	1233	N26	W 1	.546		20.4	41	1B	3	C		210		F
ATHN	20	1153E	1155U	1238	N24	E 8	.530		21.1	37D	SB	3	C		127		F
RAMY	20	1237	1237	1243	N31	W42	.822		17.4	6	SN	3	C		21		
HUAN	20	1356		1358	N24	W01	.516		20.5	2	SF	1	C				
RAMY	20	1424	1425	1428	N24	W63	.932		15.9	4	SN	3	C		24		
HUAN	20	1424	1425	1428	N26	W64	.941		15.8	4	SF	1	C	1425	30		
HUAN	20	1439	1443	1520	N27	W00	.560		20.6	41	SN	2	C	1443	165	1.8	E
HOLL	20	1440	1441U	1503	N26	W 2	.546		20.5	23	SN	1	C		150		F
RAMY	20	1440	1441	1503	N26	W 2	.546		20.5	23	SB	3	C		162		DE
WEND	20	1440	1445	1506	N27	W01	.560		20.5	26	1N		V	1445	300	3.5	T
WEND	20	1518	1525	1558	N27	W02	.561		20.5	40	1N		V	1525	280	3.2	T
RAMY	20	1520	1522	1602	N27	W 2	.561		20.5	42	SB	3	C		173		DE
HUAN	20	1521		1603	N25	W03	.533		20.4	42	SN	1	C	1523	120	1.3	E
HOLL	20	1522	1522	1617	N27	W 2	.561		20.5	55	1N	2	C		211		F
RAMY	20	1546	1546	1553	N27	W66	.953		15.7	7	SN	3	C		13		
RAMY	20	1658	1700	1706	N24	W66	.948		15.8	8	SN	3	C		22		
HOLL	20	1734	1737	1742	S 9	E26	.435		22.7	8	SF	3	C		19		
RAMY	20	1824	1828	1937D	N26	W 4	.549		20.5	73D	2B	3	C		890		ZDE
HOLL	20	1824	1829	1931	N26	W 1	.546		20.7	67	2B	3	C		916		UDE
HOLL	20	2005	2014	2033	N26	W66	.951		15.9	28	SN	3	C		48		
HUAN	20	2011		2025	N29	W65	.952		16.0	14	SF	1	C	2014	40		E
HOLL	20	2013	2036	2155	N26	W 2	.546		20.7	102	SN	3	C		61		
PALE	20	2016E	2019	2033	N30	W66	.958		15.9	17D	SF	3	C		60		DE
RAMY	20	2022E	2022U	2042D	N27	W65	.948		16.0	20D	SF	3	C		11		
PALE	20	2052	2104	2128	N26	W 6	.553		20.4	36	SF	3	C		67		FDE
HOLL	20	2214	2221	2309	N23	E52	.858		24.8	55	2N	3	C		1024		UDE
PALE	20	2215E	2217	2344D	N19	E52	.843		24.8	89D	1N	3	C		354		U F
MANI	21	0458	0502	0506D	N27	W 6	.567		20.8	8D	SN	3	C		180		F
RAMY	21	1122	1125	1132	N25	W13	.565		20.5	10	SF	3	C		20		
RAMY	21	1216	1219	1305	N28	W72	.977		16.1	49	SB	3	C		32		DE
ATHN	21	1218E	1222U	1302D	N33	W80	.997		15.5	44D	1B	3	C		95		DE
RAMY	21	1324	1329	1415D	N26	W 9	.561		20.9	51D	1B	3	C		387		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
HUAN	21	1324	1331	1431	N26	W15	.589		20.4	67	1N	2	C	1331	360	4.1	E
ATHN	21	1328E	1330U	1345D	N27	W18	.619		20.2	17D	1B	3	C		206		F
HUAN	21	1451	1454	1454	N24	W15	.564		20.5	3	SN	1	C	1454	60	.6	
HUAN	21	1541		1547	N26	W54	.882		17.6	6	SF	1	C				
BIGB	21	1644	1645	1712	N31	W80	.996		15.7	28	SN	1	C	1645	40		
HUAN	21	1824E		1827	N24	E70	.966		27.0	3D	SF	1	P				E
BIGB	21	1846	1848U	1924	S12	E27	.455		23.8	38	SN	1	P	1848	90	1.0	
HUAN	21	1847E		1849D	S12	E27	.455		23.8	2D	SN	1	P	1849	65	.7	E
BIGB	21	2009	2010	2028	N32	W80	.997		15.8	19	SB	1	C	2010	20		
PALE	21	2106	2116	2143	N14	W26	.549		19.9	37	SF	3	C		57		U F
PALE	22	0054	0057	0107	N12	E67	.935		27.1	13	1N	3	C		193		F
PALE	22	0054	0105	0142	N12	E67	.935		27.1	48	1N	3	C		193		F
MANI	22	0100E	0100U	0110	N11	E67	.934		27.1	10D	SN	3	C		50		
MANI	22	0632E	0634	0653	N26	W16	.594		21.1	21D	SN	3	C		100		
RAMY	22	1258	1301	1314	N26	W25	.656		20.7	16	SN	3	C		37		F
RAMY	22	1335	1335	1402	S10	E 0	.053		22.6	27	SF	3	C		21		
RAMY	22	1354	1355	1408	N26	W25	.656		20.7	14	SF	3	C		34		
RAMY	22	1410	1419	1502D	N12	E56	.856		26.8	52D	SF	3	C		51		
BIGB	22	1510E	1514	1544	N11	E58	.870		27.0	34D	SF	1	P	1514	20	.4	
RAMY	22	1536	1536	1544	N29	W83	.999		16.4	8	SB	3	C		0		
RAMY	22	1541	1543	1623	N26	W26	.663		20.7	42	SB	3	C		85		DE
BIGB	22	1542	1544	1558	N29	W23	.672		20.9	16	SB	1	C	1544	20	.2	
RAMY	22	1713	1728	1731	N29	W84	.999		16.4	18	SF	3	C		15		
BIGB	22	1718	1721	1738	N31	W75	.988		17.1	20	SB	1	C	1721	40		
PALE	22	1719	1722	1733	N32	W75	.988		17.1	14	SN	3	C		16		F
HOLL	22	1726	2047	2048D	N14	E57	.869		27.0	202D	1N	3	C		364		U
BIGB	22	1808	1811	1825	N20	W50	.830		19.0	17	SN	1	C	1811	40	.6	
RAMY	22	1808	1810	1818	N18	W50	.822		19.0	10	SN	3	C		25		
PALE	22	1810	1825	1844	N27	W27	.681		20.7	34	SN	3	C		83		U F
RAMY	22	1810	1820	1920	N27	W27	.681		20.7	70	SB	3	C		85		FDE
RAMY	22	1816	1829	1857	N29	W85	1.000		16.4	41	SF	3	C		25		
BIGB	22	1819	1822	1834	N30	W25	.696		20.9	15	SN	2	C	1822	40	.5	
PALE	22	1904	1904	1920	N27	W27	.681		20.8	16	SF	3	C		20		F
RAMY	22	1905	1917	1925	N28	W78	.992		16.9	20	SF	3	C		0		
BIGB	22	2030	2037	2104D	N10	E55	.842		27.0	34D	SN	1	P	2037	50	.9	
RAMY	22	2031	2032	2118	N12	E53	.829		26.8	47	SN	3	C		45		
PALE	22	2041E	2042U	2111D	N12	E55	.847		27.0	30D	SN	3	C		28		U H
HOLL	22	2046	2051	2140	N14	E57	.869		27.1	54	1N	3	C		229		U
RAMY	22	2107	2109	2120	N26	W29	.687		20.7	13	SF	3	C		29		
HOLL	22	2219	2219	2252	S10	W 3	.074		22.7	33	SN	3	C		95		
BIGB	23	1625	1627	1643D	S12	E03	.102		23.9	18D	SN	1	P	1627	60	.6	
BIGB	23	1728	1730	1748	N26	W64	.941		18.9	20	SN	1	C	1730	60	1.4	
HOLL	23	1818	1824	1918	N15	E44	.753		27.1	60	SB	3	C		146		F
BIGB	23	1839	1843	1853	N28	W56	.901		19.6	14	SN	1	C	1843	40	.7	
BIGB	23	1851	1853	1907	N26	W44	.808		20.5	16	SN	1	C	1853	60	.9	
BIGB	23	1930	1931	1943	N26	W44	.808		20.5	13	SN	1	C	1931	60	.9	
HOLL	23	2026	2034	2127	S13	E45	.703		27.2	61	SB	3	C		96		U F
HOLL	23	2123E	2123U	2133	N18	E34	.667		26.4	10D	SF	3	C		55		
HOLL	23	2141	2147	2154	S15	E44	.693		27.2	13	SF	3	C		18		
HOLL	23	2201	2202	2218	S19	E44	.700		27.2	17	SF	3	C		17		
BIGB	23	2221	2224	2234	S19	E33	.563		26.4	13	SN	2	C	2224	30	.4	
HOLL	23	2222	2236	2310	S15	E44	.693		27.2	48	SN	3	C		25		
ATHN	24	0635	0638	0650	S18	E39	.637		27.2	15	SN	1		0638	98	1.3	
WEND	24	0845		0856	S18	E36	.599		27.1	11	SF		V	0850	100	1.3	
RAMY	24	1151	1151	1217	N24	W58	.902		20.1	26	SF	3	C		33		
HUAN	24	1318		1321D	S18	E38	.624		27.4	3D	SF	1	P	1320	35	.4	
RAMY	24	1349	1352	1357	S17	E35	.582		27.2	8	SF	3	C		40		
HUAN	24	1350E		1357	S18	E38	.624		27.4	7D	SF	1	P	1354	30	.4	
HOLL	24	1456E	1459U	1521	N21	W58	.894		20.3	25D	SF	2	C		15		
HUAN	24	1458E		1505D	S15	E38	.617		27.5	7D	SF	1	P				
RAMY	24	1539	1541	1603	N12	W60	.888		20.2	24	SF	3	C		20		
HOLL	24	1545	1602	1716	N22	W58	.897		20.3	91	1N	3	C		135		
RAMY	24	1553	1553	1601	S29	W39	.680		21.7	8	SF	3	C		21		
RAMY	24	1555	1556	1625	S16	E35	.580		27.3	30	SB	3	C		85		
HOLL	24	1555	1557	1631	S17	E38	.622		27.5	36	SN	2	C		70		U F
RAMY	24	1607	1621	1656	S29	W39	.680		21.7	49	SN	3	C		46		
PALE	24	1728	1728	1731	N24	W63	.932		20.0	3	SF	3	C		27		
HOLL	24	1739	1741	1748	S15	E34	.563		27.3	9	SN	3	C		29		
HOLL	24	1818	1818	1842	S17	E32	.542		27.2	24	SF	3	C		24		F

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
HOLL	24	1823	1824	1836	N25	W66	.949		19.8	13	SF	3	C		29		
HOLL	24	1840	1842	1924	N26	W55	.888		20.7	44	SN	3	C		37		U
HOLL	24	1844	1857	1916	S17	E32	.542		27.2	32	SF	3	C		23		
PALE	24	1851	1852	1859	N24	W64	.937		20.0	8	SF	3	C		24		F
BIGB	24	1851	1851	1904	S20	E60	.862		29.3	13	SN	1			50	1.0	T
BIGB	24	1927	1931	1952	S24	E57	.840		29.1	25	SN	1			50	.9	TH
HUAN	24	1928		1936D	N24	W63	.932		20.1	8D	SN	1	P	1932	40		
PALE	24	1928	1932	1942D	N24	W63	.932		20.1	14D	SF	3	C		60		F
HOLL	24	2051	2053	2108	N25	W68	.958		19.8	17	SF	3	C		15		
HOLL	24	2057	2136	2208	S16	E33	.552		27.3	71	SB	3	C		110		DE
PALE	24	2119	2133U	2141D	S18	E32	.546		27.3	22D	1N	3	C		253		FDE
HOLL	24	2142	2142	2148	N10	W62	.899		20.3	6	SN	3	C		21		
PALE	24	2145E	2145U	2201D	S20	E51	.778		28.7	16D	SF	3	C		59		DE
BIGB	24	2218	2221	2249	N38	E05	.709		25.3	31	SN	1			33	.3	
BIGB	24	2219	2222	2234	N44	W01	.776		24.9	15	SN	1			33	.3	M
HOLL	24	2221	2226	2234	S17	E26	.459		26.9	13	SB	3	C		64		DE H
HOLL	24	2242	2303	2333	N24	W65	.942		20.1	51	SN	3	C		66		F
BIGB	24	2246	2250	2250	S23	E58	.847		29.3	4	SN	1			33	.6	T
HOLL	24	2311	2324	2334	S17	E29	.501		27.1	23	SN	3	C		57		
RAMY	25	1230	1233	1242	S22	E24	.464		27.3	12	SF	3	C		20		
HOLL	25	1346E	1346U	1430	S19	E21	.403		27.1	44D	SF	2	C		102		
RAMY	25	1434	1438	1455	S17	E21	.389		27.2	21	SF	3	C		101		
HOLL	25	1449	1503	1516	S17	E21	.389		27.2	27	SN	3	C		43		
HOLL	25	1453	1458	1506	S30	W50	.790		21.9	13	SF	3	C		15		
RAMY	25	1457	1458	1503	S27	W48	.763		22.0	6	SF	3	C		21		
RAMY	25	1457	1501	1505	S17	E21	.389		27.2	8	SF	3	C		43		
RAMY	25	1521	1535	1606	S17	E21	.389		27.2	45	1F	3	C		98		
HOLL	25	1631	1631	1735	S16	E20	.368		27.2	64	SN	3	C		48		U F
BIGB	25	1708	1711	1722	S16	E20	.368		27.2	14	SF	2	C	1711	50	.5	
HOLL	25	1739	1746	1758	S31	W54	.827		21.7	19	SN	3	C		46		
RAMY	25	1740	1746	1803	S31	W54	.827		21.7	23	SF	3	C		59		
HOLL	25	1743	1803	1811	S16	E20	.368		27.2	28	SF	3	C		30		
HUAN	25	1745	1747	1755	S35	W55	.845		21.6	10	SF	1	C	1747	45		
BIGB	25	1745	1746	1756	S29	W57	.847		21.5	11	SN	2	C	1746	30	.6	
HOLL	25	1804	1804	1813	N11	W76	.977		20.1	9	SF	3	C		0		
HOLL	25	1846	1850	1901	N10	W76	.976		20.1	15	SF	3	C		0		
BIGB	25	1847	1849	1902	N14	W79	.988		19.9	15	SN	3	C	1849	30		A
HUAN	25	1849E		1855D	N11	W78	.984		19.9	6D	SN	1	P	1849	20		D
HOLL	25	1853	1909	1932	S18	E19	.368		27.2	39	SB	3	C		161		DE H
HOLL	25	1854	1857	2053	S31	W55	.835		21.7	119	SB	3	C		47		
PALE	25	1855	1857	1905	S31	W55	.835		21.7	10	SN	3	C		20		DE
BIGB	25	1855	1857	1924	S29	W57	.847		21.5	29	SN	3	C	1857	40	.8	
PALE	25	1855	1908	1925D	S18	E18	.355		27.1	30D	SN	3	C		35		FDE
BIGB	25	1857	1901	1918	S19	E19	.376		27.2	21	SF	3	C	1901	100	1.1	
HUAN	25	1903E		1915D	S18	E18	.355		27.1	12D	SF	1	P	1906	45	.5	E
HOLL	25	1958	1958	2012	N15	E15	.445		27.0	14	SF	3	C		55		
BIGB	25	2016	2022	2037	S29	W57	.847		21.6	21	SN	3	C	2022	30	.6	
HOLL	25	2017	2025	2033	S16	E17	.325		27.1	16	SN	3	C		32		
PALE	25	2030E	2043U	2043D	S31	W56	.843		21.7	13D	SN	3	C		25		DE
PALE	25	2030E	2056U	2126	S18	E18	.355		27.2	56D	SN	3	C		104		FDE
HOLL	25	2041	2047	2128	S15	E17	.318		27.1	47	1B	3	C		275		DE
BIGB	25	2044	2048	2116	S17	E17	.333		27.1	32	SN	3	C	2048	90	1.0	
BIGB	25	2044	2046	2104	S29	W57	.847		21.6	20	SN	3	C	2046	50	.9	
BIGB	25	2254	2255	2259	S28	W55	.829		21.8	5	SF	3	C	2255	30	.5	
HOLL	25	2324	2326	2339	S20	E17	.360		27.3	15	SB	3	C		75		DE
BIGB	25	2326	2327	2339	S19	E14	.313		27.0	13	SN	2	C	2327	10	.1	
PALE	26	0252	0253	0302	S19	E14	.313		27.2	10	SF	3	C		25		F
RAMY	26	1403	1404	1410	N26	W67	.955		21.6	7	SF	3	C		35		
RAMY	26	1414	1415	1428	S17	E11	.255		27.4	14	SF	3	C		40		
RAMY	26	1438	1440	1500	N26	W72	.975		21.2	22	SF	3	C		29		
HOLL	26	1440	1448	1458	N24	W76	.985		20.9	18	SF	3	C		0		
RAMY	26	1501	1502	1513	S17	E10	.244		27.4	12	SN	3	C		71		
BIGB	26	1629	1630	1634	S19	E08	.249		27.3	5	SN	2	C	1630	40	.4	
BIGB	26	1722	1723	1732	S19	E05	.227		27.1	10	SN	2	C	1723	40	.4	
HOLL	26	1817	1959	2021	S18	E 5	.211		27.1	124	1B	3	C		214		UDE
BIGB	26	1928	1930	1946	S19	E04	.221		27.1	18	SN	2	C	1930	30	.3	
BIGB	26	1933	1935	1940	S30	W70	.935		21.6	7	SF	2	C	1935	20		
BIGB	26	1949	1950	2017	S19	E05	.227		27.2	28	SN	2	C	1950	40	.4	
HOLL	26	2001	2003	2018	S21	W31	.547		24.5	17	SF	3	C		23		
BIGB	26	2029	2032	2035	S30	W70	.935		21.6	6	SF	2	C	2032	30		

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME — UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
BIGB	26	2056	2059	2109	S30	W70	.935		21.6	13	SN	2	C	2059	30		
MANI	26	2317E	2317U	2328D	S19	E 3	.217		27.2	11D	SF	3	C		20		
BIGB	26	2331	2332	2341	S30	W70	.935		21.7	10	SF	2	C	2332	40		
BIGB	27	1704	1725	1945	S22	E35	.602		30.3	161	SN	2	C	1725	110	1.3	G
BIGB	27	1727	1728	1735	N20	E70	.960		2.0	8	SN	1	C	1728	30		
BIGB	27	1754	1755	1758	N17	E78	.987		2.6	4	SN	1	C	1755	40		
HUAN	27	1755		1759	N18	E78	.987		2.6	4	SF	1	C				E
HUAN	27	1810		1814	N28	E90	1.002		3.5	4	SF	1	C	1812	20		D
PALE	27	1920	1943	1952	N17	E72	.966		2.2	32	SN	3	C		70		
BIGB	27	1937	1940	1946	N15	E76	.980		2.5	9	SB	2	C	1940	40		
HOLL	27	2106	2114	2122	N20	E74	.976		2.4	16	SN	3	C		0		
BIGB	27	2113	2114	2117	N15	E76	.980		2.6	4	SN	2	C	2114	20		
BIGB	28	1749	1750	1755	N17	E64	.924		2.5	6	SN	2	C	1750	30	.7	
HOLL	28	1923	2009	2225	N14	W12	.406		27.9	182	SF	3	C		54		
HUAN	28	1934E		1952D	N14	E12	.406		29.7	18D	SF	1	P	1945	20	.2	D
BIGB	28	1956	1957	2032	N14	W11	.398		28.0	36	SF	2	C	1957	30	.3	
BIGB	28	2151	2152	2201	S12	W74	.956		23.4	10	SF	2	C	2152	30		
BIGB	28	2303	2304	2322	N11	E90	1.000		4.7	19	SN	2	C	2304	30		
PALE	29	0058E	0058U	0104D	N19	E56	.873		2.2	6D	1F	3	C		211		U
MANI	29	0101E	0101U	0107	N18	E56	.871		2.2	6D	SF	3	C		50		F
RAMY	29	1208	1209	1219	S16	W36	.594		26.8	11	SB	3	C		158		FDE
HOLL	29	1505	1508	1522	N33	E70	.975		3.9	17	SF	2	C		40		
HOLL	29	1521	1522	1531	S22	W40	.662		26.6	10	SF	3	C		27		
HUAN	29	1523	1524	1529	S19	W41	.665		26.6	6	SF	1	C	1524	30	.4	
BIGB	29	1828	1832	1844	N12	E78	.984		4.6	16	SN	1	C	1832	30		
HUAN	29	1859	1901	1904	S12	E88	.998		5.4	5	SF	1	C	1901	15		D
BIGB	29	1931	1937	1945	N28	E68	.962		3.9	14	SN	1	C	1937	60		G
HOLL	29	1932	1936	1942	N29	E66	.955		3.8	10	SN	2	C		31		
HUAN	29	1935	1937	1940	N29	E70	.971		4.1	5	SF	1	C	1937	15		D
HOLL	29	1939	1943	1954	S16	E78	.973		4.7	15	SB	2	C		0		F
BIGB	29	1939	1941	2017	S16	E74	.955		4.4	38	SB	1	C	1941	100		
HUAN	29	1940	1943	2010	S15	E72	.945		4.2	30	SN	2	C	1943	140		
HUAN	29	1950	1951	1954	S19	W43	.689		26.6	4	SF	1	C	1951	30	.4	
MANI	30	0127E	0128	0151D	N28	E44	.775		2.4	24D	SN	3	C		100		F
MANI	30	0200E	0200U	0203D	N20	E45	.784		2.5	3D	SF	3	C		20		
HUAN	30	1358E		1402	N17	E30	.615		1.8	4D	SF	1	P				E
BIGB	30	1629	1644	1737	N33	E59	.931		4.1	68	SN	1	C	1644	70	1.4	
RAMY	30	1642	1643	1702	N33	E57	.921		4.0	20	SF	3	C		132		
HUAN	30	1727	1729	1733	N28	E50	.861		3.5	6	SF	1	C	1729	20	.3	D
BIGB	30	1809	1811	1822	N17	E38	.700		2.6	13	SF	2	C	1811	40	.5	
BIGB	30	2129	2134U	2147	S07	E25	.420		1.8	18	SF	1			37	.4	
HOLL	30	2203	2217	2256	N19	E31	.641		2.2	53	SN	2	C		105		F
BIGB	30	2248	2250	2302	S07	E23	.388		1.7	14	SF	1			50	.5	
BIGB	30	2355	2357	0005D	S01	E26	.447		1.9	10D	SF	1			33	.3	
WEND	31	1115E		1155D	N17	E25	.562		2.3	40D	2N		V	1124	510	6.1	
HOLL	31	1434	1436	1442	N16	E25	.552		2.5	8	SN	3	C		23		
HOLL	31	1439	1443	1501	S15	E47	.729		4.1	22	SF	3	C		39		
HUAN	31	1440		1457	S15	E46	.718		4.1	17	SF	1	C	1442	40	.6	E
HUAN	31	1628	1629	1635	N13	W66	.930		26.7	7	SF	1	C	1629	20		D
HOLL	31	1628	1629	1634	N13	W63	.910		27.0	6	SN	3	C		35		F
HUAN	31	2005		2021	S15	E56	.824		5.0	16	SN	1	C	2017	20	.3	D
HUAN	31	2023		2030	S09	E39	.625		3.8	7	SF	1	C				E
BIGB	31	2124	2125	2131	N15	W70	.954		26.6	7	SN	3	C	2125	50		
BIGB	31	2124	2125	2142	S16	E55	.815		5.0	18	SB	3	C	2125	60	1.1	

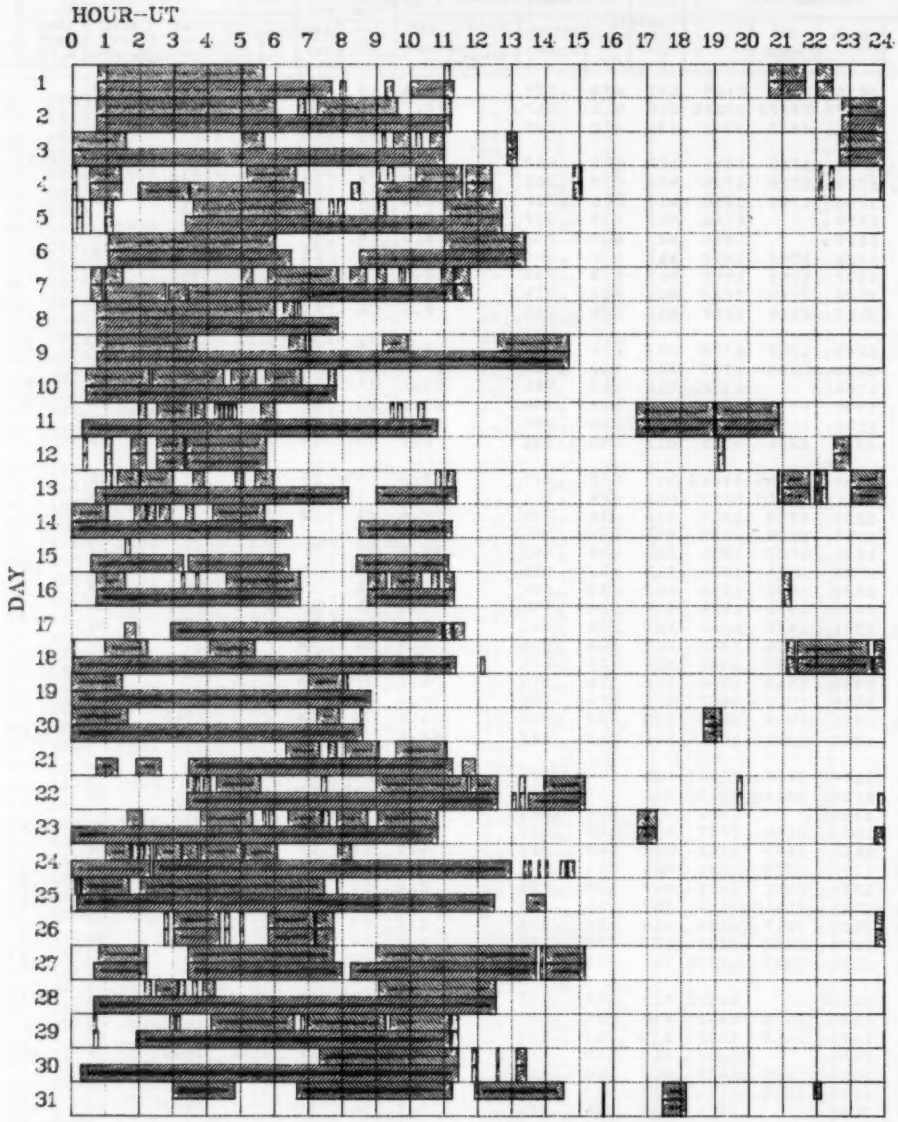
"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

OCTOBER 1979



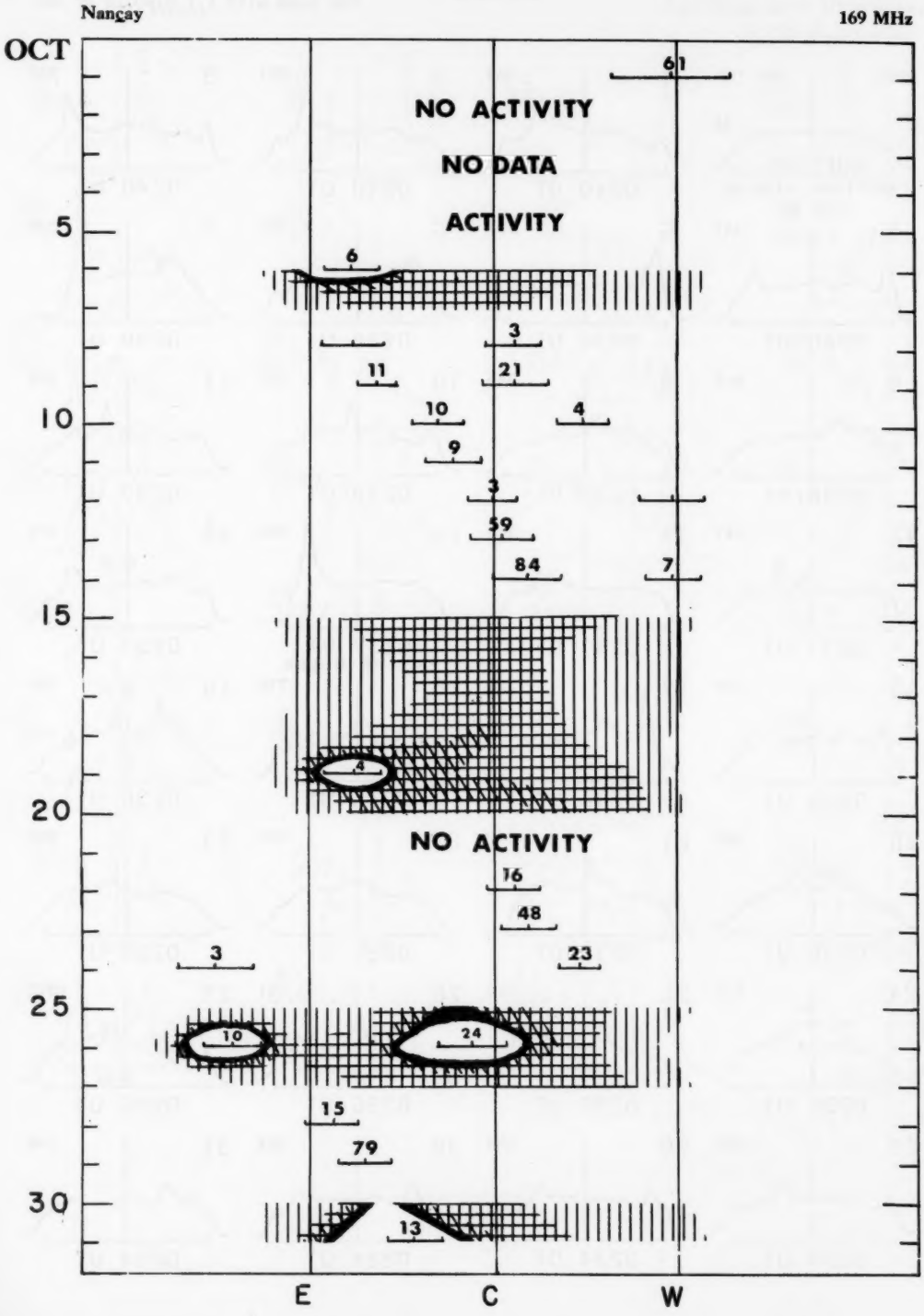
Observatories included in total patrol:

Athenes	Bucharest	Holloman	Istanboul	Manila	Ramey
Big Bear	Berne	Huancayo	Kandilli	Palehua	Upice
					Wendelstein

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

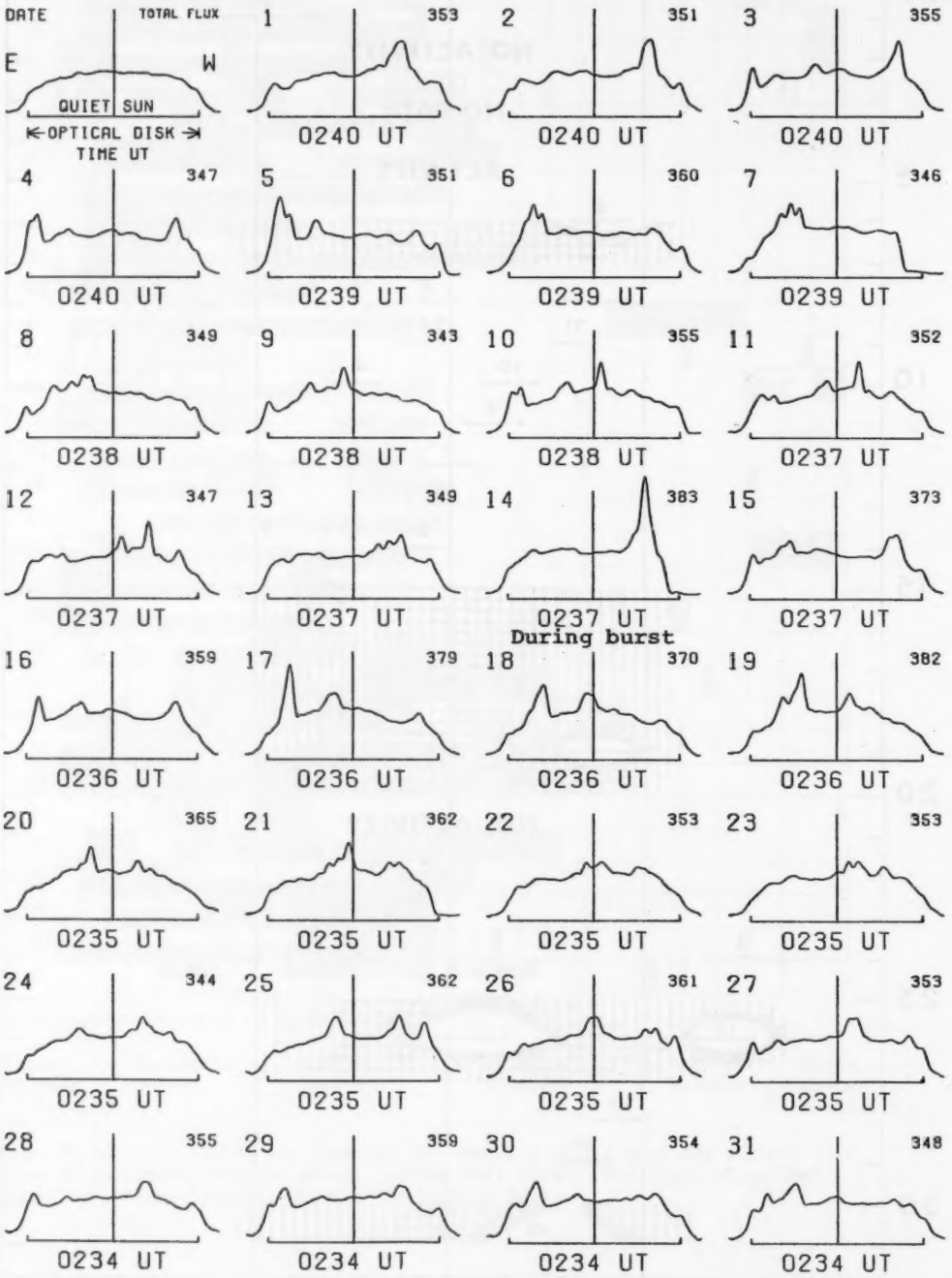
OCTOBER 1979



EAST-WEST SOLAR SCANS
OCTOBER 1979

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC

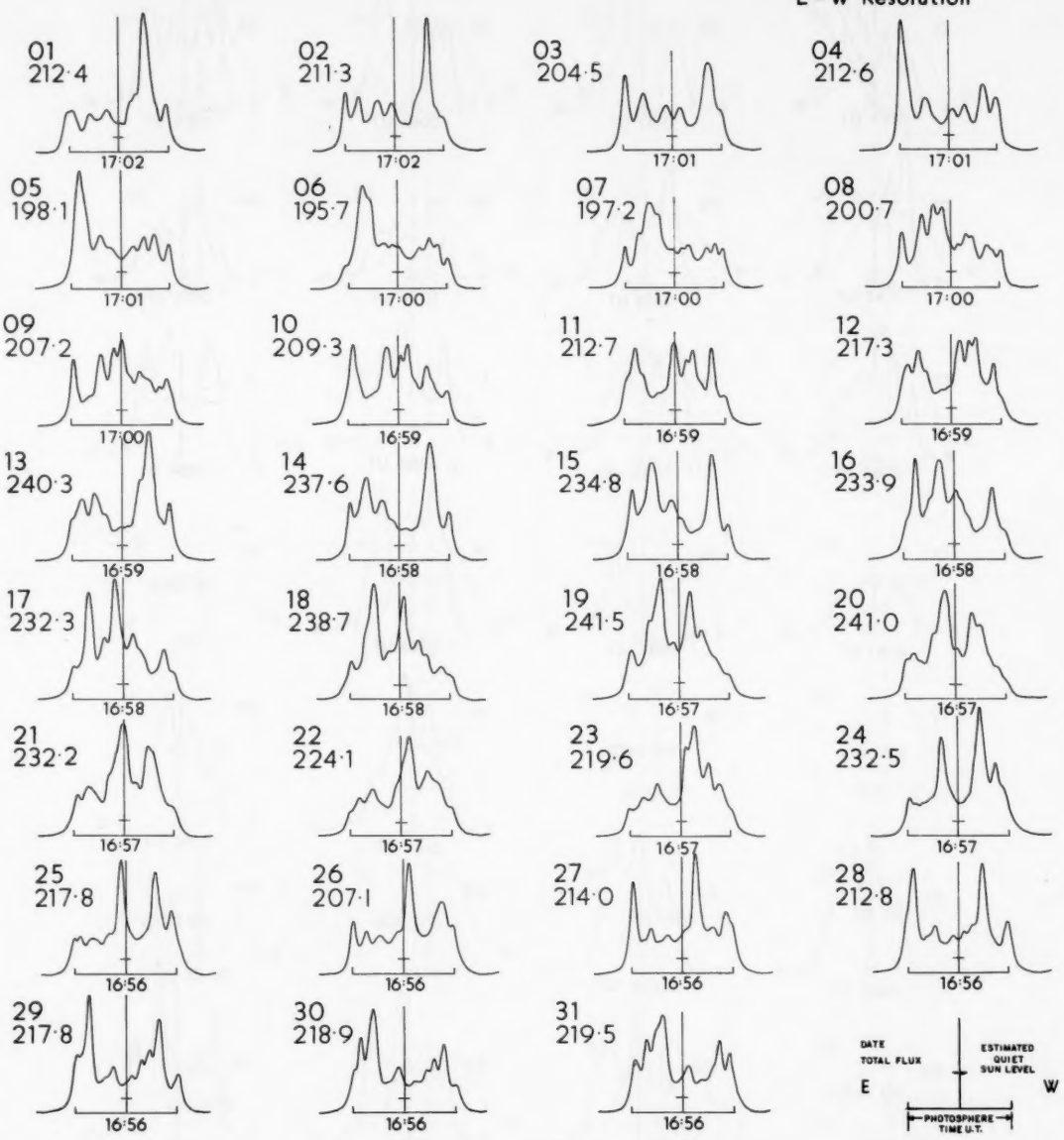


EAST-WEST SOLAR SCANS

OCTOBER 1979

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution

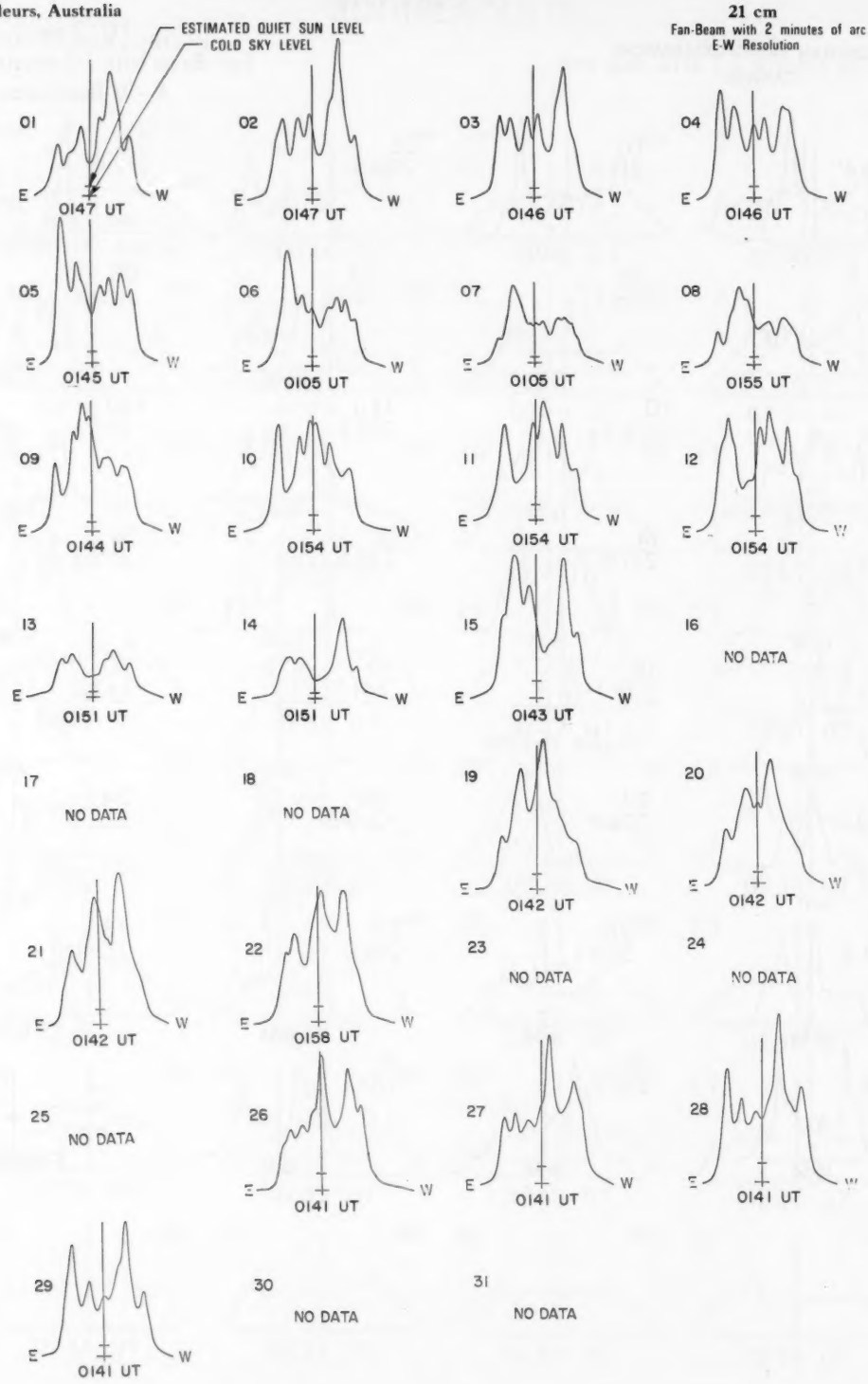


EAST-WEST SOLAR SCANS

OCTOBER 1979

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution

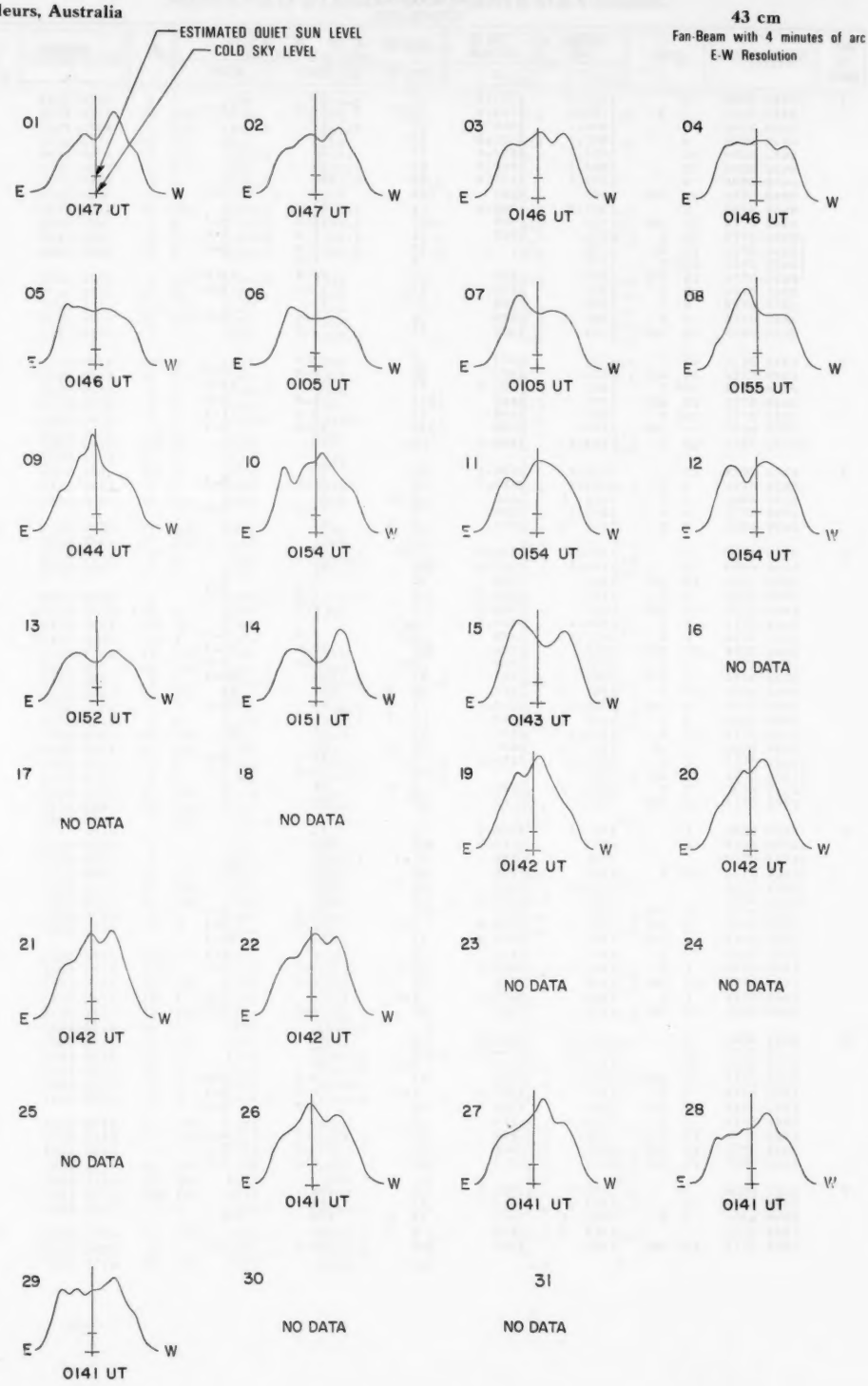


EAST-WEST SOLAR SCANS

OCTOBER 1979

Fleurs, Australia

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
OCTOBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
1	8400	BERN	3	0722.2	0724.3	7	63			
	8800	MANI	S	0723.1	0724.8	3.9	3 42.4	14.1		
	8400	BERN	3	0844.1	0846	7	39			
	8400	BERN	4	0920.7	0921.8	37	111			
	8400	BERN	41	0929.7	0937.4	17	20			
	8400	BERN	20	0958.2	1000.6	68	29			
	8400	BERN	3	1133.2	1135.4	58	266			
	2800	OTTA	28 GRF	1240	1500	225	9	4.5		
	8400	BERN	1	1307.3	1308.6	5	17			
	2800	OTTA	21 GRF	1735	1935	245	12.2	6.8		
	2800	OTTA	24 R	1756	1757	1	4.8	2.4		
	2800	OTTA	27 RF	1756		12	4.8	4.2		
	2800	OTTA	24P R	1757		9	4.8			
	2800	OTTA	26 FAL	1806	1808	2	-4.8	-2.4		
	2800	OTTA	3 S	1830	1833	12	16.4	5.4		
	2800	OTTA	8 S	1846	1846	.1	21			
	2800	OTTA	1 S	1924	1926	8	4.2	2.1		
	2695	PENT	20 GRF	2225	2300	70	3.2			
2	2800	OTTA	40 F	1427	1433	7	41.4			
	2800	OTTA	21 GRF	1435	1517	95	8.8	4.4		
	2800	OTTA	46F C	1442	1451.5	24	25	10.8		
	2800	OTTA	20 GRF	1710	1800	115	6.8	3.4		
	2800	OTTA	240 R	2005	2020	15	3.6	1.8		
	2695	PENT	21 GRF	2150	2205	135	13.8	6.9		
	2800	OTTA	40 F	2159.8	2200.2	2	113			
3	8400	BERN	20	0832.2	0836.1	17	15			
	2800	OTTA	3 S	2109.8	2110.7	5	36.6	9.2		
	2695	BOUL	3 S	2111 E	2112	2.5D	21	7		
	2800	OTTA	3 S	2148.5	2150	8	28.6	7.2		
	2695	BOUL	3 S	2149 E	2151	4 D	22	7		
4	8400	BERN	1	0826.2	0826.7	1.5	19			
	8400	BERN	20	1044.5	1107.3	253	17			
	2800	OTTA	20 GRF	1240	1250	35	4	2		
	2800	OTTA	1 S	1421	1421.7	2	7.8	3.7		
	2800	OTTA	41 SER	1421	1421.7	8	7.8			
	2800	OTTA	1 S	1424.4	1424.8	1.5	2	1		
	2800	OTTA	1 S	1427.8	1428	1.2	3.4	1.6		
	2800	OTTA	21 GRF	1500	1634	268	22.6	12.3		
	2800	OTTA	1 S	1545	1546	1.2	3.8	1.9		
	2800	OTTA	4 S/F	1550	1556	27	148	44.9		
	2695	BOUL	45 C	1551 E	1557	15 D	107	36		
	2800	OTTA	4 S/F	1635.8	1638.5	7	43	13.4		
	2695	BOUL	3 S	1637 E	1640	5 D	16	5		
	2800	OTTA	45 C	1646.4	1651	13	45	22		
	2695	BOUL	4 SF	1647 E	1652	5 D	16	5		
	2800	OTTA	3 S	2103.5	2104.5	6.5	34.4	9.8		
	2800	OTTA	21 GRF	2103		148	8.8	4.4		
	2695	BOUL	3 S	2104 E	2105	3 D	25	8		
	2800	OTTA	22 GRF	2116	2124	16	14	7		
5	8400	BERN	1	0822.9	0823.1	2	21			
	8400	BERN	46	1030	1149.9	240	539			
	2800	OTTA		1145	1150	11.5	178			
	2800	OTTA	46F C	1145	1200	31	254	115		
	2800	OTTA		1156.5	1200	11.5	254			
	2800	OTTA		1208	1209.5	6	111			
	2800	OTTA	30 PBI	1214	1214	355	28.2	8.8		
	2800	OTTA	4 S/F	1224.3	1225.5	3.5	17.6	8.8		
	2800	OTTA	4 S/F	1255	1258.8	11	124	41.7		
	2800	OTTA	1 S	1310	1311	2	5	2.5		
	2800	OTTA	1 S	1614	1614.9	5.5	4.2	1.4		
	2800	OTTA	20 GRF	1840	1910	70	2.8	2		
	2800	OTTA	1 S	2020	2021.4	2.5	3	1.5		
	2695	PENT	20 GRF	2150	2213	90	3.2	1.8		
6	8400	BERN	1	0623.4	0623.6	8	28			
	8400	BERN	20	0740.9	0744.2	140	39			
	8400	BERN	46	1113.4	1114	3.5	22			
	2800	OTTA	20 GRF	1238	1312	70	9.2	2.6		
	2800	OTTA	1 S	1437	1437.5	1.5	4.2	2.1		
	2800	OTTA	20 GRF	1500	1525	50	3.2	1.6		
	2800	OTTA	1 S	1722.5	1724	3	2	1		
	2800	OTTA	20 GRF	1750	1830	85	2.8	1.6		
	2800	OTTA	20 GRF	1930	2000	110	2.8	1.4		
	2695	PENT	20 GRF	2125	2210	90	3.2	1.6		
7	8400	BERN	1	1206.3	1206.8	2	21			
	8400	BERN	46	1409.1	1412.3	80	471			
	2695	BOUL	3 S	1411 E	1413	10 D	475	158		
	2800	OTTA		1418 E	1418	6 D	44			
	2800	OTTA	30 PBI	1424	1424	160	28.6	10.3		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

OCTOBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
	2800	OTTA	1	S	1655	1656.3	1	2	1		
	2800	OTTA	21	GRF	1835	1900	75	3.8	1.9		
	2800	OTTA	2	S/F	1843.2	1844.5	4	2	1		
	2800	OTTA	21	GRF	2117	2124	41	3.8	1.9		
	2800	OTTA	2	S/F	2123.3	2123.5	1	3.2			
	2695	PENT	40	F	2228	2232.7	8	4.6			
	2695	PENT	3	S	2250.8	2251.5	3.5	96	32		
	2695	BOUL	3	S	2252 E	2253	3 D	73	24		
	2695	PENT	30	PBI	2254.3	2254.3	11	7.8	3.9		
	2695	PENT	1	S	2259.2	2259.8	2.8	9.8	4.6		
	2695	PENT	1	S	2302.2	2302.8	1.2	6.6	3.3		
	2695	PENT	8	S	2336.5	2336.9	.5	9.8			
8	2800	OTTA	2	S/F	1631.9	1632	2	2.8	1.4		
	2800	OTTA	20	GRF	1700	1855	170	5	2.8		
	2800	OTTA	260	FAL	2135	2140	5	-3.2	-1.6		
	2695	PENT	21	GRF	2240	2322	70	6.2	3.1		
	2695	PENT	8	S	2256	2256.3	.5	6.6	3.3		
9	2800	OTTA	240	R	1320	1350	30	5	2.5		
	2800	OTTA	21	GRF	1405	1500	80	4	2.8		
	2800	OTTA	8	S	1459.9	1500	.5	2	1		
	2800	OTTA	8	S	1834	1834	.1	8.2			
	2800	OTTA	8	S	1959.4	1959.4	.1	7.8			
	2800	OTTA	1A	S	1959	2000	1.5	2.4	1.2		
	2800	OTTA	27A	RF	2122		143	4	3.8		
	2800	OTTA	24	R	2122	2123	1	4	3		
	2800	OTTA	24P	R	2123		132	4			
	2800	OTTA	1	S	2125	2126	3	6.6	3.3		
	2695	PENT	26	FAL	2335	2345	10	-4			
10	2800	OTTA	20	GRF	1300	1320	55	2.8	2		
	2800	OTTA	21	GRF	1445	1545	105	6.6	3.3		
	2800	OTTA	1	S	1540	1540.2	1	2.4	1.2		
	2695	PENT	1	S	2249	2249.7	2	5.8	2.6		
11	8400	BERN	1		1144.5	1145.9	13	14			OPR
	2800	OTTA	24	R	1308	1305	5	4	2		
	2800	OTTA	27A	RF	1308		270	4	3.6		
	2800	OTTA	24P	R	1305		220	4			
	2800	OTTA	20	GRF	1308	1325	90	4			
	2800	OTTA	21	GRF	1546	1555	40	4	2		
	2800	OTTA	8	S	1552.5	1552.7	.8	4.8	2.2		
	2800	OTTA	26	FAL	1645	1730	45	-4	-2		
	2800	OTTA	1	S	1735	1735.5	1	9	2.3		
	2800	OTTA	3	S	1836	1838.7	6	22.8	7.6		
	2800	OTTA	29	PBI	1842	1842	45	4	2		
	2695	PENT	21	GRF	1955	2006	11	4			
	2800	OTTA	1	S	2000	2000.5	1.5	4	2		
	2800	OTTA	8	S	2045	2045.3	.5	5	2.5		
	2800	OTTA	20	GRF	2050	2145	120	10	5		
	2695	PENT	23	GRF	2256	2330	75	10.8			
	2695	PENT	4	S/F	2314.2	2314.5	1	15.6	7.8		
12	8400	BERN	1		1034	1035.6	80	24			
	8400	BERN	1		1210.2	1210.8	4	15			
	2800	OTTA	20	GRF	1525	1550	55	3.2	1.6		
	2800	OTTA	20	GRF	1755	1830	70	4.4	2.2		
	2800	OTTA	21	GRF	2030	2105	200 D	17.8			
	2800	OTTA	1	S	2035	2036	2	3.6	1.8		
	2800	OTTA	3	S	2044	2047	7	11.8	5.8		
13	2800	OTTA	240	R	1220	1300	40	8	4		
	2800	OTTA	240	R	1305	1317	12	7.2	3.6		
	2800	OTTA	20	GRF	1325	1335	65	5.6	2.8		
	2800	OTTA	40	F	1438	1450	14	30			
	2800	OTTA	29	PBI	1452	1452	55	8	4.2		
	2800	OTTA	40	F	1634	1636.8	6	4.6			
	2800	OTTA	21	GRF	1700	1740	160	6	3.2		
	2800	OTTA	40	F	1729	1733.5	5.5	8			
	2800	OTTA	45	C	1959	1959.5	9	22.6	9.9		
	2800	OTTA	1	S	2039	2039.4	1	3.6	1.7		
	2800	OTTA	3	S	2128.2	2128.8	1.5	11	4		
14	2800	OTTA	23	GRF	1200	1320	280	16.2	8.1		
	2800	OTTA	2	S/F	1613.7	1613.9	3	1.8			
	2800	OTTA	8	S	1720.9	1721	.2	4.8	2.4		
	2800	OTTA	20	GRF	1755	1900	85	4.8	2.8		
	2800	OTTA	20	GRF	1930	1945	40	3.4	1.7		
	2800	OTTA	260	FAL	2020	2045	25	-4.8	-2.6		
	2695	PENT	3	S	2322.7	2323.1	1	15.6	7.8		
15	2800	OTTA	4	S/F	1451.2	1452.1	2.7	28.2	9.4		
	8400	BERN	3		1451.4	1452.2	4	96			
	2800	OTTA	22	GRF	1530	1603	105	3.8	2		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
OCTOBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
16	8400	BERN	20	1203.3	1206	137	22			
	2800	OTTA	20 GRF	1225	1245	75	8	4.1		
	2800	OTTA	24 R	1447	1454	7	4.8	2.6		
	2800	OTTA	27A RF	1447		268	4.8	4.6		
	2800	OTTA	24P R	1454		246	4.8			
	2800	OTTA	1 S	1637.8	1638	1	2.4	1.2		
	2800	OTTA	26 FAL	1900	1915	15	-4.8	-2.4		
	2695	PENT	20 GRF	2010	2110	135	7	3.5		
	2695	PENT	3 S	2304.5	2305.5	2.5	12.6	5.3		
17	8400	BERN	45	0657	0658.5	36	94			
	8400	BERN	20	1230	1319	180	46			
	2800	OTTA	23 GRF	1240	1345	185	7.6			
	2800	OTTA	3 S	1318	1319	3	25.4	8.4		
	2800	OTTA	20 GRF	1430	1440	30	4.8	2.4		
	2800	OTTA	23 GRF	1535	1605	145	11.8	5.4		
	2800	OTTA	40 F	1639.2	1639.2	1.1	3.8			
	2800	OTTA	2 S/F	1741.5	1743.2	3	8.6	4		
	2800	OTTA	240 R	1805	1835	38	3.4	1.9		
	2800	OTTA	240AR	1858	2018	88	4	3		
	2800	OTTA	1 S	1900	1901	3	3.4	1.7		
	2695	PENT	20 GRF	2128	2208	98	5.4	2.7		
18	2695	MANI	S/F	0022	0024.1	4	4 23.8	9.4		
	8400	BERN	1	0731.6	0734.5	6	32			
	8400	BERN	46	0859.6	0915.6	42	187			
	8400	BERN	1	0948.9	0949.9	4	17			
	8400	BERN	20	1008.9	1035.6	35	23			
	2800	OTTA	1 S	1347.5	1348	2	8.2	4		
	2800	OTTA	28 GRF	1518	1527	58	5.2	4		
	2800	OTTA	20 GRF	1955	2040	78	3.2	1.6		
	2695	PENT	2 S/F	2114.5	2115	1.5	7.8			
	2695	PENT	8 S	2152.5	2153	.8	3.2	1.6		
	2695	PENT	21 GRF	2157	2205	45	8	3.6		
	2695	PENT	48 F	2159	2159.2	.5	6			
	2695	PENT	8 S	2234	2234.2	.6	6.8			
	8800	MANI	S	2352.2	2352.5	1	3 68.9	22.9		
	2695	PENT	8 S	2352	2352.3	.6	17.4	8.7		
19	8800	MANI	S/F	0019.7	0023.1	6.3	4 144.2	48.1		
	2695	MANI	S/F	0021	0023.1	5	4 58.8	16.9		
	2695	MANI	S/F	0414	0419.3	12	4 280.1	93.3		
	8800	MANI	4 GB	0416.7	0418.7	9.3	7 2101	700.3		
	2695	MANI	S/F	0453	0501	9	4 28.3	9.4		
	2695	MANI	S/F	0621.1	0621.6	1.1	4 48.1	16		
	8800	MANI	S/F	0621.2	0621.6	2	4 16.5	5.5		
	8400	BERN	1	0836.4	0836.9	1	14			
	8400	BERN	22	1053.9	1108.6	51	19			
	8400	BERN	47	1153.7	1157.8	160	4700			
	2800	OTTA	260 FAL	1235	1425	110	-18			
	2800	OTTA	21 GRF	1430	1524	98	4.6	3		
	2800	OTTA	1 S	1439.3	1439.7	1	4.8	2.3		
	2800	OTTA	3 S	1620	1621.2	3	33.4	16.8		
	2800	OTTA	29 PBI	1623	1623	6	6.6	3		
	2800	OTTA	21 GRF	1640	2022	340	13.2	6.6		
	2800	OTTA	1 S	1945	1946.5	3	2.4	1.6		
	2800	OTTA	1 S	2001	2001.6	3	3.8	1.3		
	2695	PENT	1 S	2120	2120.5	1	3.8	1.9		
	2695	PENT	8 S	2152.1	2152.5	.8	3.4	1.7		
	2695	PENT	3 S	2314.5	2316.5	5	25	12.5		
	8800	MANI	S/F	2314.7	2315.8	4.3	4 44.1	14.7		
	2695	MANI	S/F	2316	2317.3	3	4 28.9	9.6		
20	8800	MANI	S	0256.8	0257.1	1.2	3 30.4	10.1		
	8800	MANI	S/F	0302.2	0304.8	4.3	4 116.8	38.9		
	2695	MANI	S/F	0303.6	0304.6	4.3	4 127.6	42.5		
	8800	MANI	S/F	0552.8	0554.5	6.8	4 436.8	145.6		
	2695	MANI	S	0553.7	0554.7	7.6	3 290.2	96.7		
	8400	BERN	20	0944.6	0948	27	18			
	8400	BERN	2	1111.2	1112.5	11	25			
	8400	BERN	46	1151.1	1154.3	37	150			
	2800	OTTA	21 GRF	1430	1545	195	8.6	4.3		
	8400	BERN	20	1437.3	1440.2	25	49			
	2800	OTTA	21 GRF	1440	1445	20	5.8	2.9		
	2800	OTTA	1 S	1441.7	1442	1	3.8	1.9		
	2800	OTTA	20 GRF	1520	1523	20	12	5		
	2800	OTTA	20 GRF	1751	1753.5	15	4.6			
	2800	OTTA	4 S/F	1823.5	1827.1	6.5	52	29.2		
	2800	OTTA	29 PBI	1830	1830	50	26.6	9.4		
	2800	OTTA	24 R	2000	2007	7	3.6	1.8		
	2800	OTTA	27AFRF	2000		210	3.6	3.3		
	2800	OTTA	24P R	2007		173	3.6			
	2800	OTTA	1 S	2040	2041.7	4	3.4	1.4		
	2800	OTTA	22 GRF	2055	2102	70	5.6	2.8		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
OCTOBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	2695	PENT	4 S/F	2211.2	2213	5	10.6	5		
	2695	PENT	3 S	2227	2229	9	13.2	4.4		
	2695	PENT	1 S	2244.5	2246.6	5	4	1.8		
	2695	PENT	1A S	2250	2253	6	3.8	1.9		
	2695	PENT	3 S	2251.2	2252	1	15.2	5.4		
	2695	PENT	26 FAL	2308	2330	30	-3.6	-1.8		
21	2800	OTTA	21 GRF	1225	1400	160	15.8			
	2800	OTTA	8 S	1324	1324	.3	10.4			
	2800	OTTA	3 S	1325.5	1328.3	10.5	97	38.2		
	2800	OTTA	29 PBI	1336	1336	22	16	8		
	2800	OTTA	1 S	1559	1808	3	2.4	1.2		
	2800	OTTA	21 GRF	1655	1858	170	4.8	2.5		
	2800	OTTA	4 S/F	1758.6	1758.9	1.8	14.6	7.3		
	2800	OTTA	4 S/F	2115	2115.6	2.5	19.4	7		
	2695	BOUL	3 S	2117 E	2117.5	1.5D	16	5		
22	2800	OTTA	27A RF	1245		258	4.8	4.4		
	2800	OTTA	24 R	1245	1300	15	4.8	2.4		
	2800	OTTA	24P R	1300		210	4.8			
	8400	BERN	4	1542.3	1542.9	8	150			OPR
	2800	OTTA	3 S	1542.5	1543.1	8	19.8	5		
	2800	OTTA	1 S	1556	1558	5	2.4	1.2		
	2800	OTTA	26 FAL	1630	1655	25	-4.8	-2.4		
	2800	OTTA	240 R	1710	1730	20	3.2	1.6		
	2800	OTTA	21 GRF	1805	1825	85	6.2	3		
	2800	OTTA	1 S	1808.5	1810	3	2.2	1.6		
	2800	OTTA	3 S	1819	1819.6	2	11.8	2.8		
	2800	OTTA	8 S	1903.3	1903.3	.1	12.2			
	2695	PENT	24 R	2015	2022	17	3.2	1.6		
	2695	PENT	27A RF	2015		188	3.2	2.9		
	2695	PENT	24P R	2022		143	3.2			
	2695	PENT	1 S	2030.9	2031	1	4	2		
	2695	PENT	20 GRF	2050	2115	50	4	2		
	2695	PENT	1 S	2218.8	2219	1.2	4.4	2.4		
	2695	PENT	26 FAL	2255	2314	20	-3.2	-1.6		
23	2800	OTTA	20 GRF	1520	1526	28	5.8	2.9		
	2800	OTTA	20 GRF	1552	1630	90	8.8	3.2		
	2800	OTTA	21 GRF	2020	2110	158	5.6	3		
	2800	OTTA	1 S	2031	2034	5	3	1.5		
24	8400	BERN	3	0943.3	0944.3	4	13			
	2800	OTTA	20 GRF	1310	1430	130	7.8	4.4		
	2800	OTTA	21 GRF	1555	1605	85	8.2	4.6		
	2800	OTTA	2 S/F	1559	1559.9	3	7.8	3.4		
	2800	OTTA	20 GRF	1835	1935	70	2.6	1.3		
	2695	PENT	20 GRF	2100	2140	105	5.8	2.9		
25	8800	MANI	S	0137.2	0138.3	4.6	3	38.4	12.8	
	2800	OTTA	21 GRF	1305	1420	135	3.6			
	2800	OTTA	8 S	1339.7	1339.7	.1	18.4			
	2800	OTTA	20 GRF	1640	1700	60	3.8	1.9		
	2800	OTTA	21 GRF	1830	1902	220	7.8	3.9		
	2800	OTTA	21 GRF	2043	2050	47	5.8	2.9		
	2800	OTTA	3 S	2047	2047.5	3	10.4	3.5		
26	2800	OTTA	1 S	1435.5	1436	1	4.4	2.2		
	2800	OTTA	21 GRF	1435	1438	14	3	1.5		
	2800	OTTA	240 R	1735	1755	20	3	1.5		
	2800	OTTA	240 R	1820	1935	75	4.8	2		
27	2800	OTTA	20 GRF	1710	1745	115	4.4	3		
	2800	OTTA	260 FAL	1925	1950	25	-4.4	-2.2		
29	2800	OTTA	20 GRF	1300	1340	55	4.2	2.1		
	2800	OTTA	22 GRF	1420 E	1523	185 D	5.8			
	2695	BOUL	3 S	1936	1939	10	19	6		
	2800	OTTA	4 S/F	1937.5	1939.5	8.5	56	15.6		
	2800	OTTA	30 PBI	1946	1946	30	2.2	1.1		
	2800	OTTA	1 S	1950	1950.3	1	3.4	1.5		
30	2800	OTTA	20 GRF	1630	1655	50	3.6	2		
	2800	OTTA	20 GRF	1807	1810	16	2.6	1.3		
	2800	OTTA	1 S	1849	1852	5	2.2	1.1		
	2800	OTTA	20 GRF	1920	2015	80	3.6	2.9		
	2695	PENT	260 FAL	2120	2140	20	-3.6	-1.8		
31	2695	MANI	S	0329.5	0330.3	1.9	1	8.3	2.8	
	8800	MANI	S	0329.7	0330.3	1.7	3	31.1	10.4	
	2800	OTTA	21 GRF	1425	1440	50	4.4	2.2		
	2800	OTTA	8 S	1428.1	1428.2	.5	3.6	1.8		
	2800	OTTA	20 GRF	1605	1620	100	2.6	1.8		
	2800	OTTA	1 S	2040	2045	10	2.8	1.2		

Observatories:

BERN = Berne BOUL = Boulder MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill

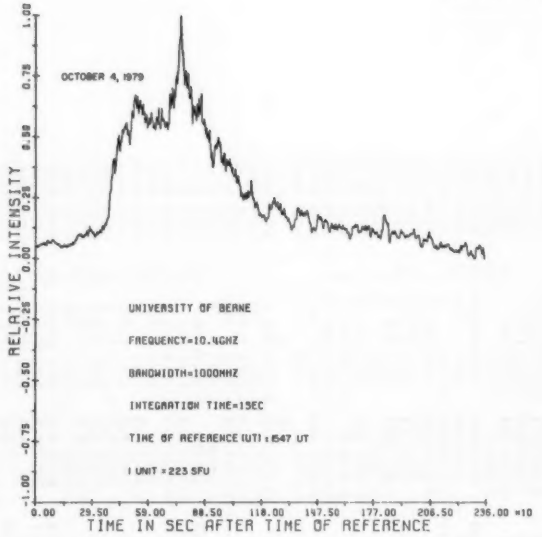
Explanation of Type Code:

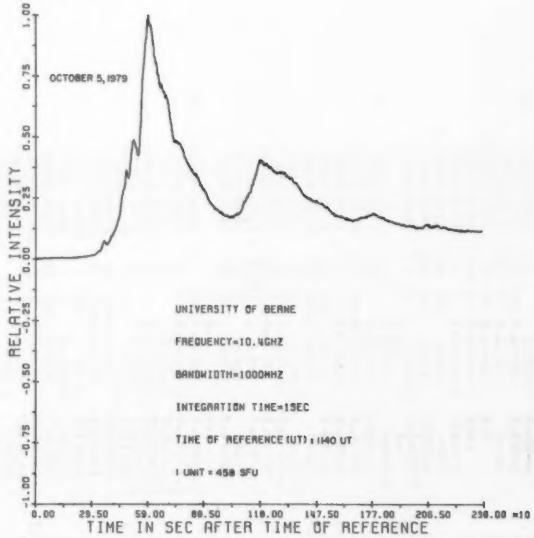
1 Simple 1	6 Minor	22 Simple 3F	27 Rise and Fall	32 Absorption	44 Noise Storm in Progress
2 Simple 1F	7 Minor +	23 Simple 3AF	28 Precursor	40 Fluctuation	45 Complex
3 Simple 2	8 Spike	24 Rise	29 Post Burst Increase	41 Group of Bursts	46 Complex F
4 Simple 2F	20 Simple 3	25 Rise A	30 Post Burst Increase A	42 Series of Bursts	47 Great Burst
5 Simple	21 Simple 3A	26 Fall	31 Post Burst Decrease	43 Onset of Noise Storm	48 Major
					49 Major +

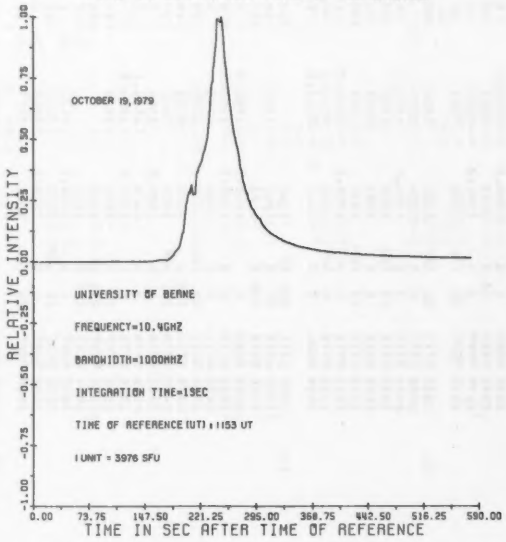
(Please see note on next page.)

SELECTED SOLAR NOISE BURSTS

OCTOBER 1979







Note: The September 1979 fixed frequency data from Palehua, Learmonth, Athens and Sagamore Hill that we published in SGD 422 Part I on pages 30-35 show peak flux densities a factor of 10 too small and burst durations incorrectly computed. A corrected version of these events will appear in the "Outstanding Occurrences" section of SGD 427 Part II in March 1980.

Palehua, Learmonth, Athens and Sagamore Hill fixed frequency observations for October 1979 have been omitted from the listing on pages 32-35 in this issue because of continued problems with the computer program that decodes these data.

PIONEER XII

OCTOBER 1979

DATE Oct '79	TIME (UT)	ESV (°)	U_{H+} (Km/s)	N_{H+} (H^+/CC)	T_{H+} ($\times 10^6$ K)
1	0257	156.	604.	5.6	0.203
2	1604		603.	8.7	.269
3	1204		492.	17.3	.035
4	1505		368.	27.7	.076
5	1547		325.	19.7	.093
6	0042		303.	25.2	.052
7	----		----	----	----
8	1553		349.	28.7	.041
9	1449		292.	22.	.038
10	0805		----	----	----
11	1626		279.	20.7	.042
12	0825		334.	14.7	----
13	1010		325.	16.8	.075
14	1456		339.	10.2	.049
15	1524	148.	268.	21.7	----
16	1558		294.	43.5	.047
17	1501		298.	34.7	.082
18	1704		308.	20.4	.049
19	1228		370.	19.4	.09
20	1219		364.	28.3	.134
21	0538		378.	10.4	.115
22	1521		332.	17.4	----
23	1208		327.	17.	.122
24	1151		295.	15.6	.034
25	1301		302.	15.1	.029
26	1156		317.	32.5	.012
27	1148		297.	26.3	.017
28	0825		397.	72.3	.028
29	1221		331.	29.2	.044
30	1242		328.	21.7	.051
31	1429	138.	284.	58.	.025

*Solar wind velocities were in excess of 1200KM/SEC. Experienced some difficulty in the data reduction during this period.

INFERRED IP MAGNETIC FIELD

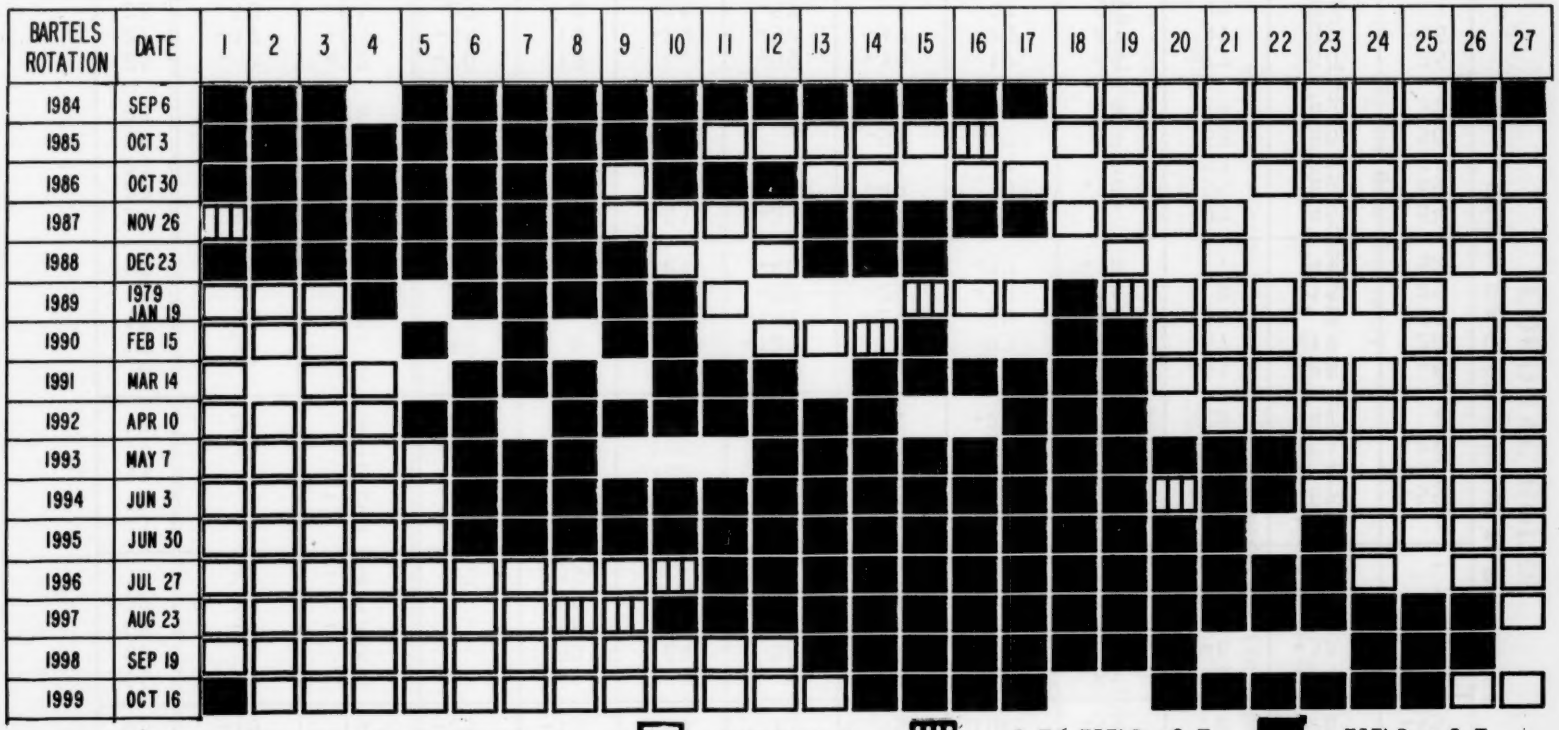
BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1982	JUL 19									TA							–	–		TA				AT	AT *		TA	
1983	AUG 15					TA			AT		AT	AT		AT	TA						A*						TA	
1984	SEP 11			TA		AT				TA	T*						A*			—				–			A*	TA –
1985	OCT 8		* TA		T*		AT				–	–	–						TA	TA	–		AT		–			
1986	NOV 4		–				–	AT –	–		–	–						*	AT		–		AT	AT	AT	AT		
1987	DEC 1	AT	AT	–					–		–	TA	–	–	AT –		– AT	– TA	–	A*	–			*		–	AT –	–
1988	DEC 28		–	–	–	–			–	AT *			TA	TA T*			– AT	–	TA				– TA	–				–
1989	1979 JAN 24		–			*		TA			TA		TA							*					–		TA	
1990	FEB 20		TA	–	TA –		TA			–	TA –	TA				TA	A*	TA	A*	TA	A*			A*				
1991	MAR 19		AT			AT		T*						*	–	–	–	–	TA	–		AT		T*	TA	TA	–	A*	–		TA	A*
1992	APR 15		A*	TA T*	AT			TA	TA		T*						TA	*		–	–	AT	– TA				A*		–	TA	
1993	MAY 12									–	–		AT			*		TA				AT	AT				–	–		–	–
1994	JUN 8	TA	TA	A*	TA						–	AT		–						T*	–	TA			TA	T*	AT	T*	–	TA	
1995	JUL 5	TA	TA	AT		TA		AT	A*	TA	TA	–		TA		AT					*			TA	T*					TA
1996	AUG 1			AT	A*	–			TA	–	–	–	T*				*	–				AT				AT	*			
1997	AUG 28			–	A*						AT				*			–		–			T*	–	AT	TA	–		TA	AT	
1998	SEP 24						A*		AT		–	TA		A*	*			TA		–				TA				TA	TA –		*
1999	OCT 21									T*		TA																			

▓ = definitely towards the sun □ = definitely away from the sun

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day.

STANFORD MEAN SOLAR MAGNETIC FIELD



POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: □ = FIELD >2μT, ▥ = -2μT ≤FIELD≤2μT, ■ = FIELD <-2μT

No box visible indicates no data available for that day.

Note: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the sun which affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

	1978		1979									
	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
DAY												
01	-18	-72	11	.	-36	-4	26	41	97	24	-5	-32
02	-21	-39	.	-1	.	16	13	82	86	21	-8	-27
03	-36	-7	15	30	.	57	6	137	70	6	-36	-27
04	-28	17	-6	27	-24	44	10	115	35	4	-28	-36
05	-19	19	-25	-13	-6	11	45	104	-33	2	-20	-45
06	-12	9	-26	1	46	9	68	78	-61	-6	-24	-31
07	3	5	.	50	64	14	101	15	-81	-8	-39	-22
08	-6	-15	.	88	56	67	134	-27	-80	-8	-46	-45
09	-17	-26	.	59	.	102	126	-50	-70	-6	-54	.
10	-3	-37	27	39	.	124	75	-76	-68	-16	-45	.
11	5	-19	.	40	21	138	31	-82	-75	-43	-47	.
12	9	-16	27	30	63	100	-13	-52	-23	-59	-67	-55
13	.	13	.	.	100	51	-66	-52	-23	-46	-74	-62
14	16	31	45	78	106	-12	-104	-37	-20	-33	-53	-49
15	20	43	21	62	.	-51	.	-28	-24	-38	-41	.
16	.	65	36	27	24	.	.	-42	-30	-61	-26	-6
17	34	.	48	6	45	-121	.	-43	-26	-57	-18	20
18	42	59	59	.	.	-117	-27	-35	-32	-41	3	29
19	.	30	37	-52	-56	-72	-29	-32	-16	4	15	25
20	55	18	18	.	-81	-40	-36	-37	-10	.	41	52
21	35	32	9	-86	-81	-27	-34	-24	.	41	46	64
22	40	27	-15	.	.	-32	-43	0	-16	55	64	69
23	28	-3	.	-80	-51	-40	-56	-7	6	58	59	48
24	27	-20	-54	-52	-41	.	-51	-7	33	68	65	50
25	18	-26	-64	.	-28	.	-30	10	58	74	63	35
26	2	-32	-70	19	.	-99	-16	17	69	77	40	26
27	-17	-63	-64	10	-29	-92	-17	29	83	47	37	16
28	-48	-51	-27	0	-36	-57	-4	47	92	40	24	3
29	-61	-36	12		-12	.	19	64	90	32	21	-9
30	-65	-22	.		-26	3	10	93	82	1	7	-7
31		-21	.		-28		9		53	-1		-22

DOT SYMBOL ENTRY INDICATES NO DATA AVAILABLE FOR THE DAY.

CORONAL HOLES

Helium D3 Chromosphere at Solar Limb

OCTOBER 1979

Big Bear Solar Observatory

Only two D3 limb observations were made during the month of October. These data are presented in numerical form rather than graphically.

Position angles of coronal hole boundaries (in degrees)

Date	North	South
9 October	No holes.	
18 October		-166° to +168°

DOT SYMBOL ENTRY INDICATES NO DATA AVAILABLE FOR THE DAY.

BOULDER GEOMAGNETIC SUBSTORM LOG

OCTOBER 1979

DATE	ONSET TIME	DIRECTION	COMMENTS
01	0950	West	
	1040	West	
	1130	West	
	1425	West	
02	1520		Slow onset.
03	0210	East	
	1150	West	
	1635		
04	0805	West	Initial onset. Strongest of several injections; moderate to strong SS; field recovery at 1100 UT.
05			Field quiet until 1430 UT, then unsettled balance of day.
06	0205	East	
	0605	≈center	Moderate to strong SS. SSC, minor magstorm conditions through 1800 UT.
07	0502		Small positive impulse H-component mid and low latitude stations. Field active balance of day.
	0610	East	
	1340	West	Strong SS. Moderate ring current established after 1700 UT.
08			Intermittent minor magstorm conditions
09	0625		Positive impulse H-component mid and low latitude stations. Minor magstorm conditions through 1800 UT.
	1010		Strong SS.
10	0200	East	1st of double onset.
	0230	East	2nd of double onset.
	0930	West	Onset of SS with numerous injections lasting to 1330 UT.
	1330	West	Final field recovery at 1510 UT.
11	0810	East	1st of double onset. Start of active period lasting through 1730 UT.
	0840	≈center	2nd of double onset.
	1140	West	
	1425		
12	1005	West	
	1100	West	
	1140	West	
	1345		
13			Mid and low latitude and polar cap stations unsettled after 2000 UT. No distinctive SS activity.
14			Field intermittently unsettled, no distinctive SS activity.
15			Field intermittently unsettled, no distinctive SS activity.
			Field active 0730-1730 UT.
	1055	West	
	1255	West	
16	0235	East	Weak SS.
	0525	East	1st of multiple SS, weak SS.
	0550	East	2nd of multiple SS, weak SS.
	0610	East	3rd of multiple SS, weak SS.
	0630	East	4th of multiple SS, weak SS.
17			Quiet day.
18			Quiet day.
19			Quiet day.
20	0715	East	Many injections maintained activity through 1315 UT.
21			Field unsettled after 0600 UT.
	1455		
22	0530	East	
	0740	East	
23			Field unsettled 0400 - 1600 UT. No distinctive SS activity.
24	0520		Weak SS, localized Gillam-Lynn Lake.
	0710	East	
	1025		Diffuse onset.
	1250	West	
	1610		
25	0705	West	Strong SS Alaska
26			Intermittent periods unsettled. No distinctive SS activity.
27	0440		Weak SS, localized Gillam-Lynn Lake.
	0730		Localized SS Ft. Yukon - Inuvik.
28			Field unsettled to active 0700 - 1600 UT. No distinctive SS activity.
29			Field intermittently unsettled.
	0905		1st of double onset, weak SS.
	0930		2nd of double onset, weak SS.
30			Field intermittently unsettled.
	0925	West	
	1230	West	
31	1020		Onset of unsettled period lasting through 1900 UT. Numerous minor injections during this time.

SGD 423 Part I (Prompt)

SEPTEMBER 1979 DATA

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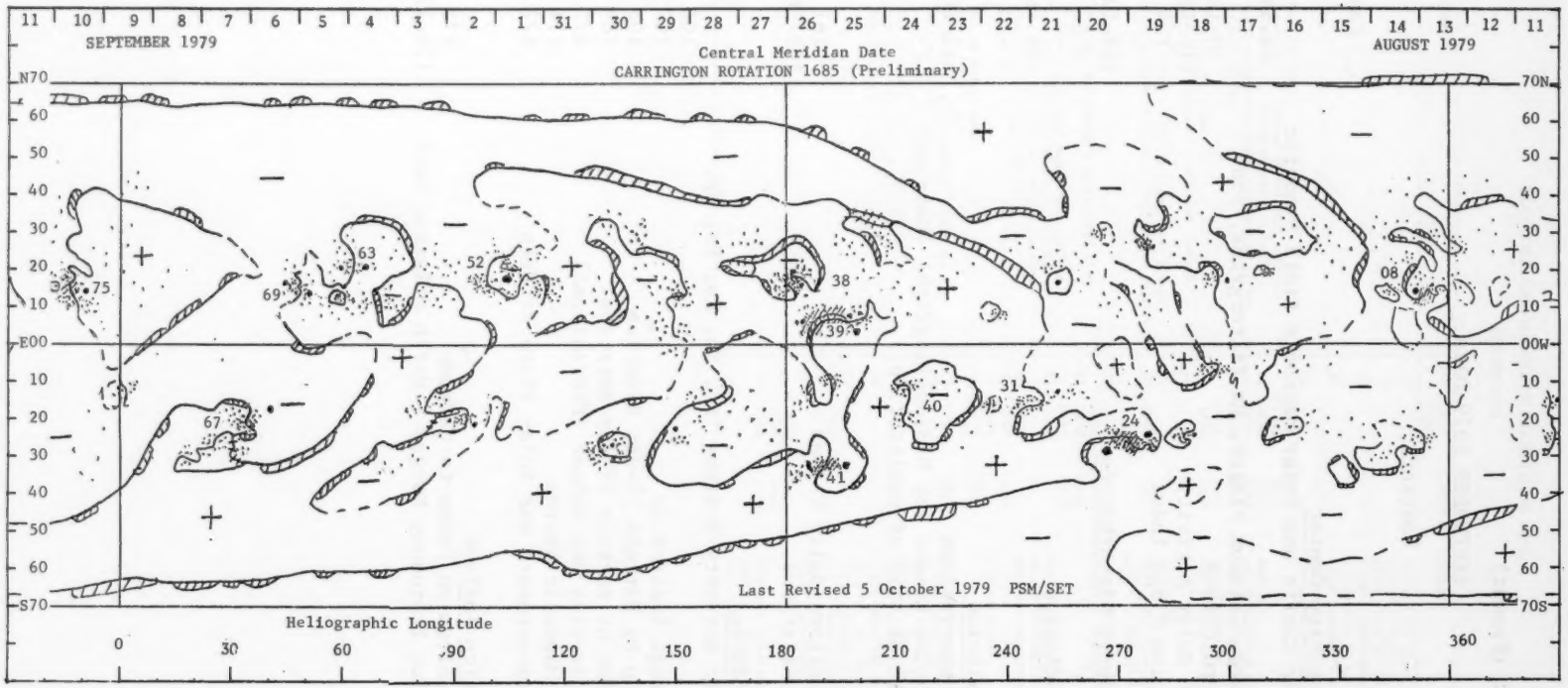
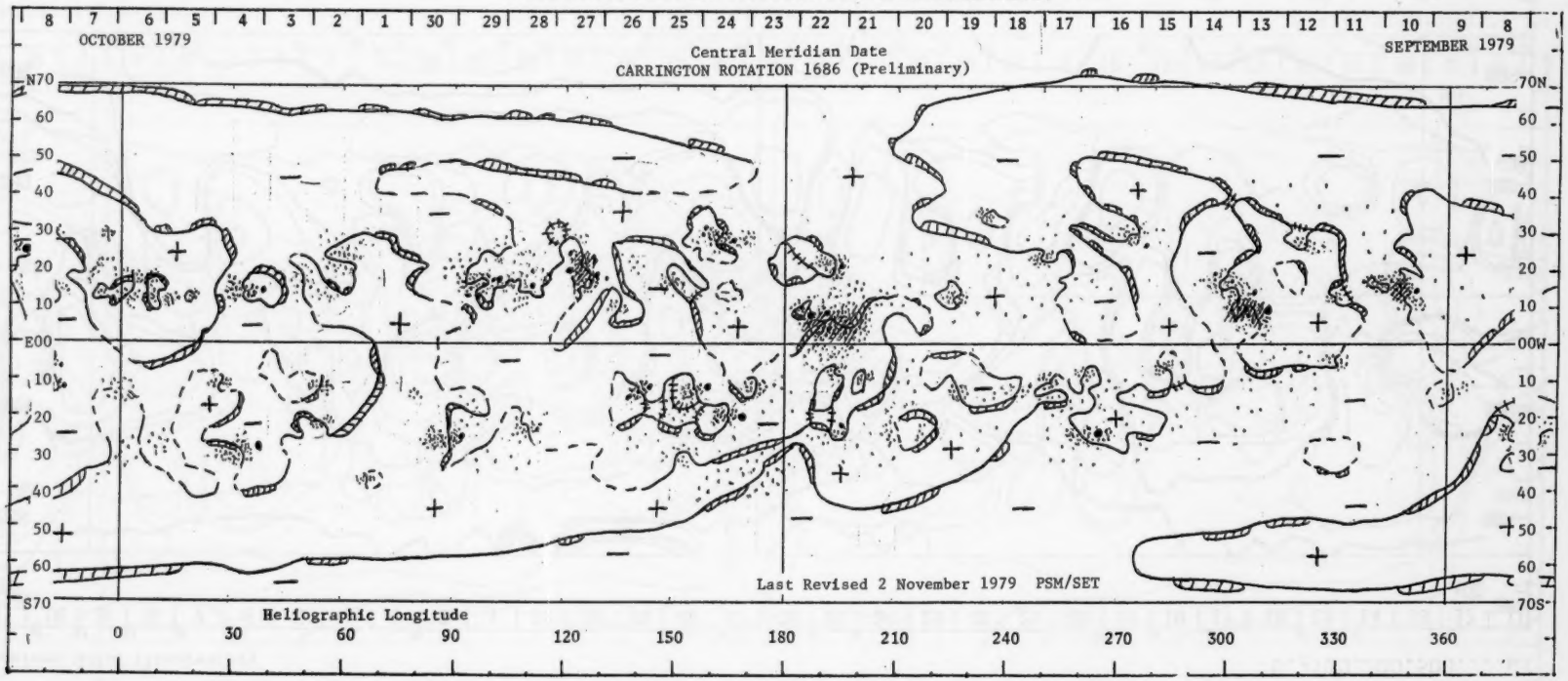
Hα SYNOPTIC CHART

CARRINGTON ROTATION 1685 (PRELIMINARY)



Hα SYNOPTIC CHART

CARRINGTON ROTATION 1686 (PRELIMINARY)

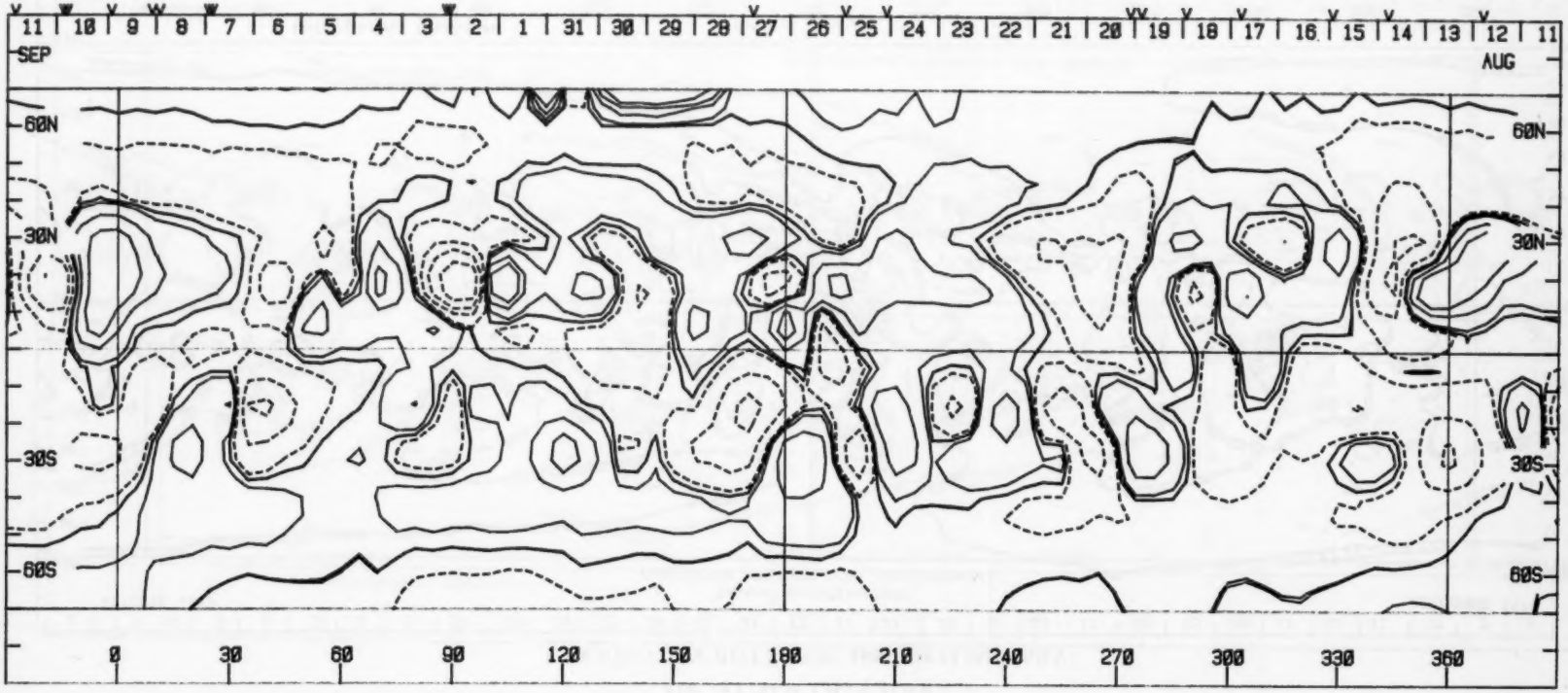


SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION 1685

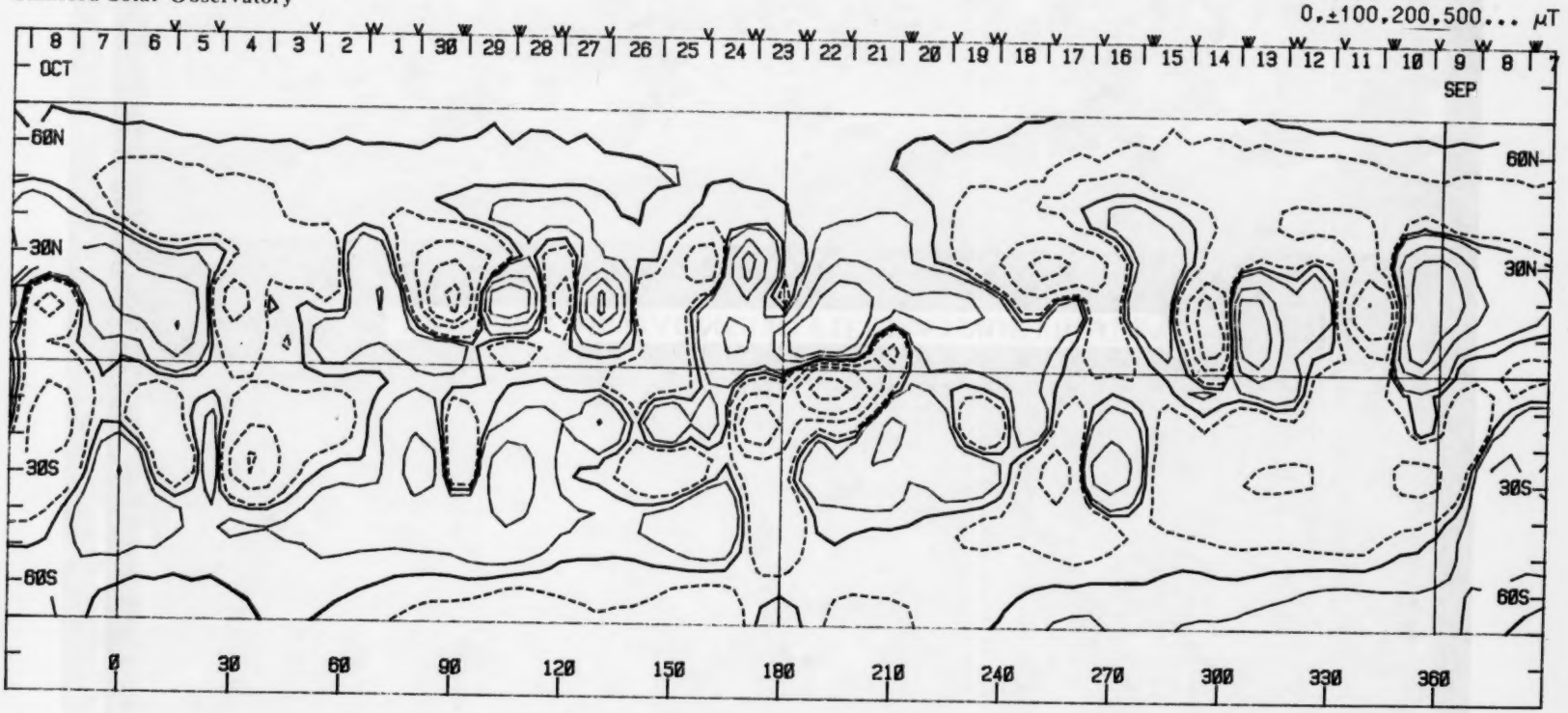
Stanford Solar Observatory

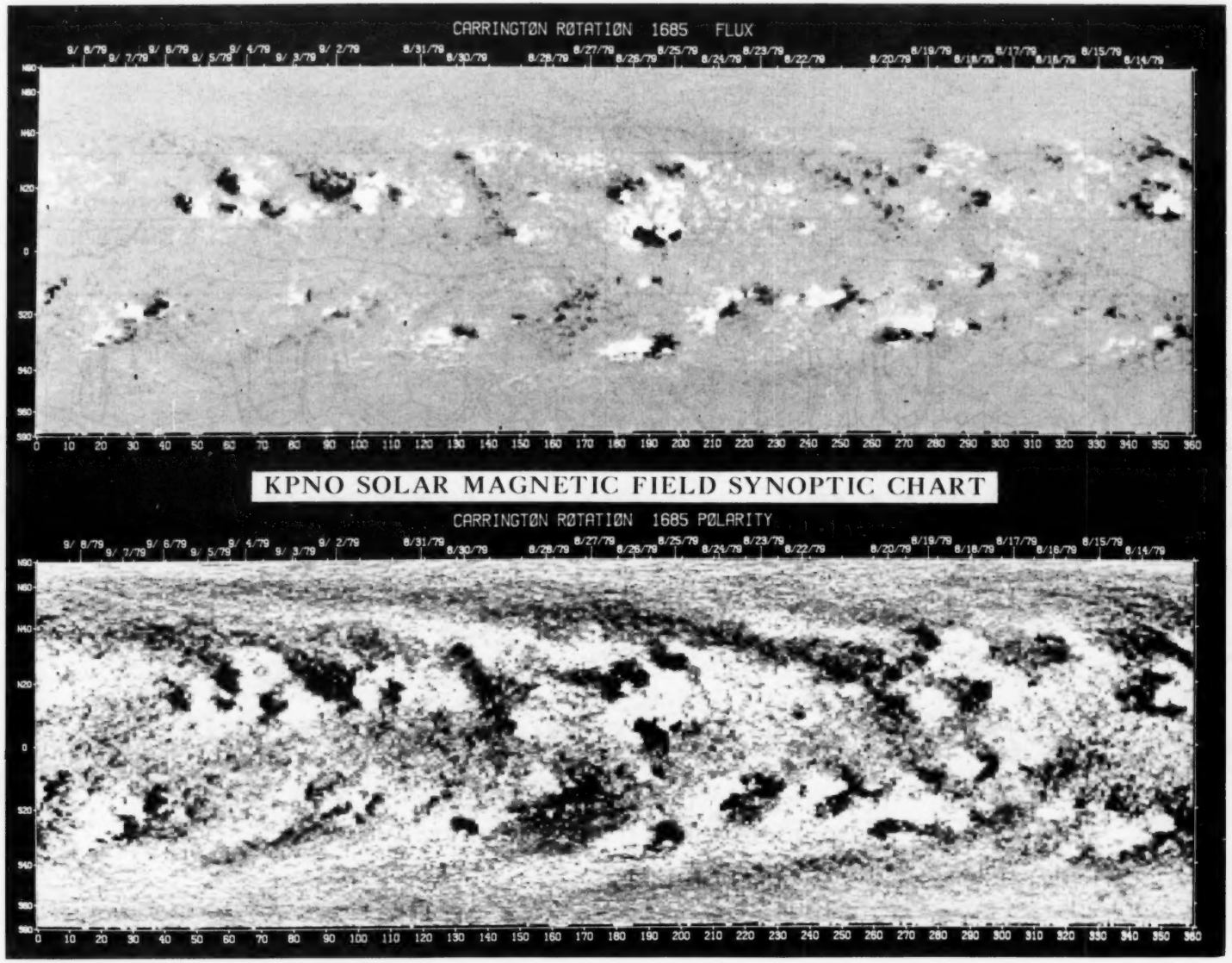
0,±100,200,500... μT

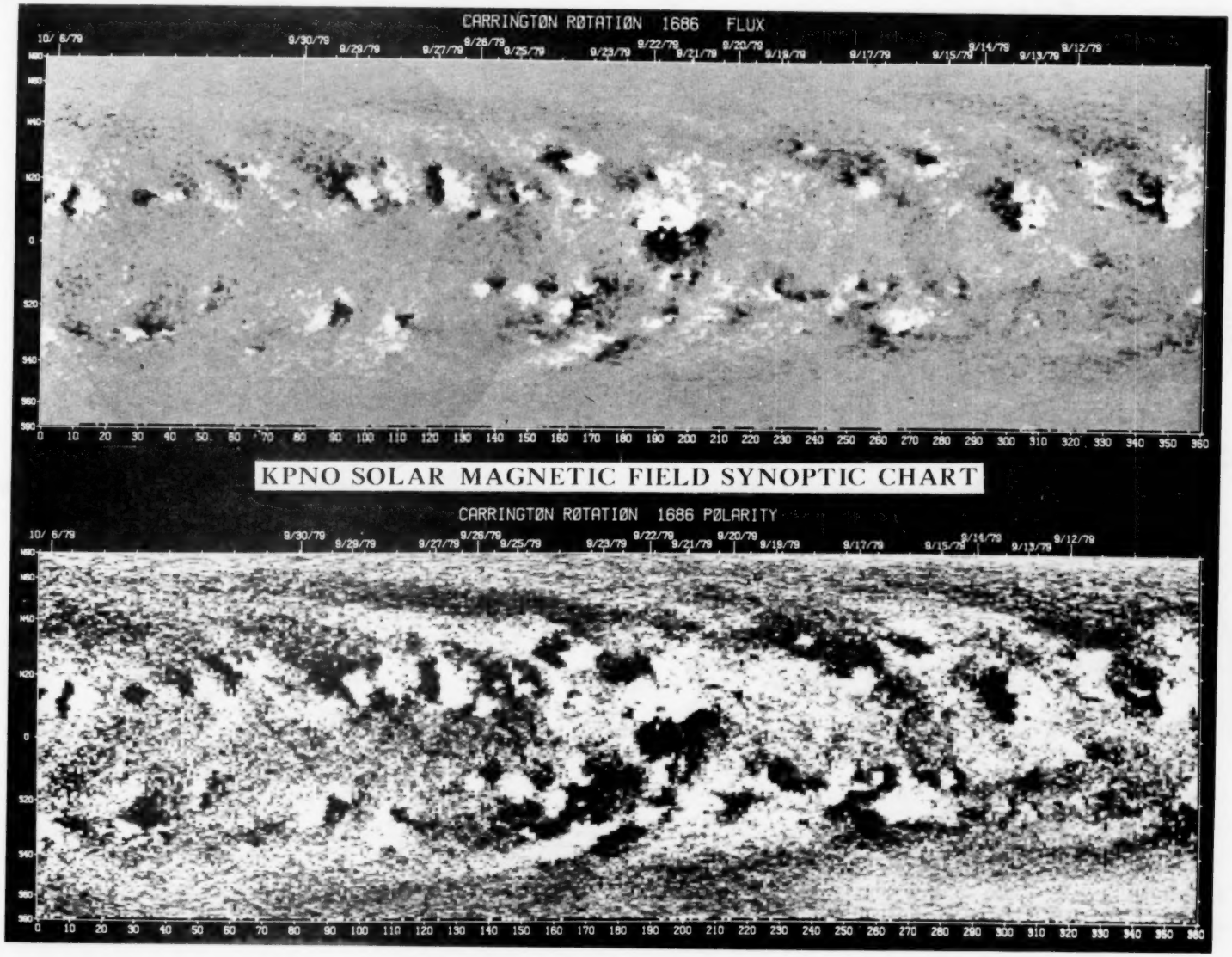


SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1686

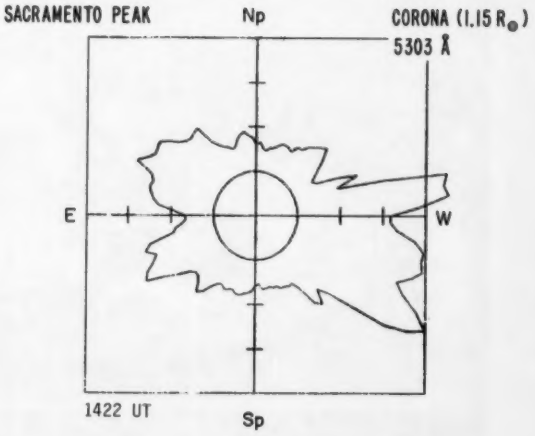
Stanford Solar Observatory

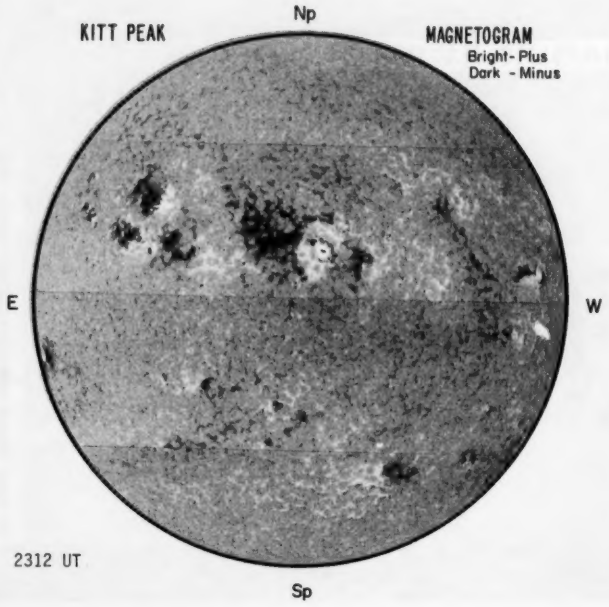


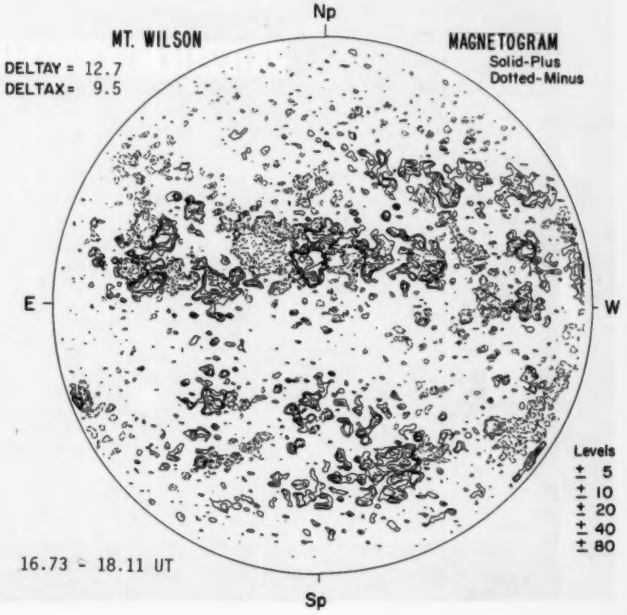

CARRINGTØN RØTATIØN 1685 FLUX
KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTØN RØTATIØN 1685 PØLARITY


CARRINGTØN RØTATIØN 1686 FLUX
10/ 6/79
9/30/79
9/29/79
9/27/79
9/26/79
9/25/79
9/23/79
9/22/79
9/21/79
9/20/79
9/19/79
9/17/79
9/15/79
9/14/79
9/13/79
9/12/79
KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTØN RØTATIØN 1686 PØLARITY

SEPTEMBER 1, 1979 (P = 20.95, B_o = 7.19, L_o = 114.06)







Sp

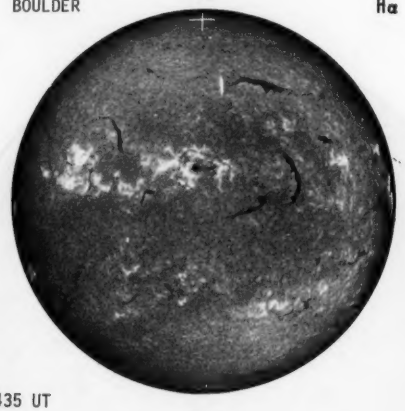
Sp

01

BOULDER

Np

Hα



E

W

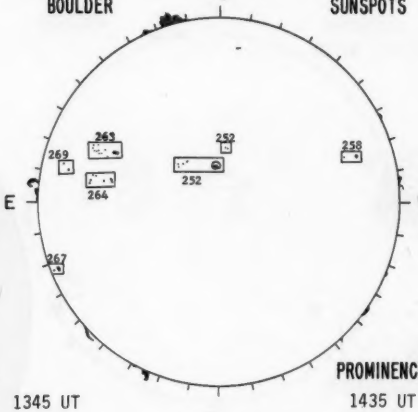
1435 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1345 UT

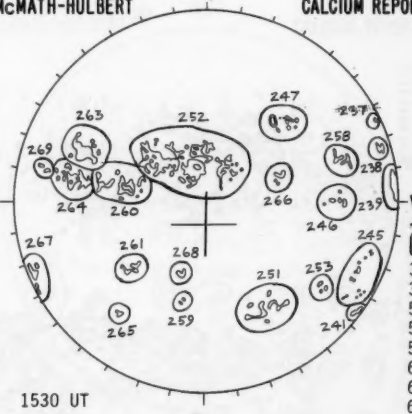
1435 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1530 UT

Sp

GOOD	S
38- 0800-3.0	
39- 4500-3.0	
51- 1200-2.5	
52- 5500-3.0	
58- 0800-3.0	
60- 1800-2.5	
63- 2000-3.5	
64- 1800-3.0	
65- 0200-2.5	
67- 1200-3.0	
69- 0300-3.0	

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

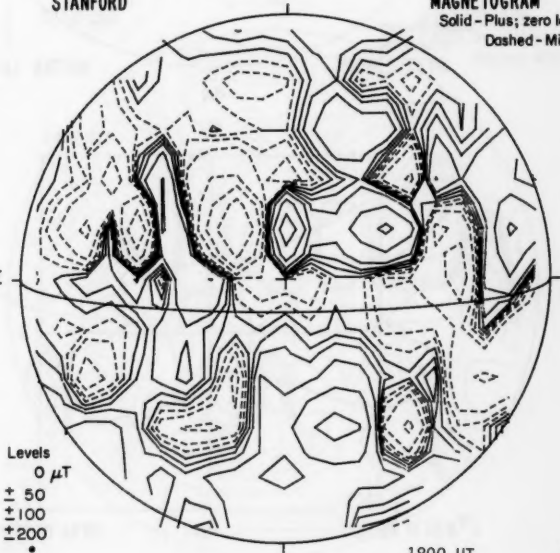
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

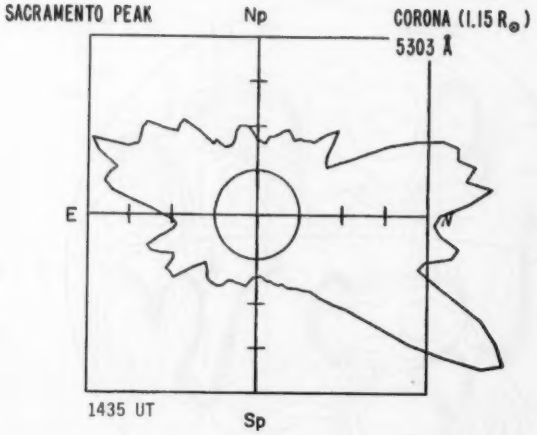
±100

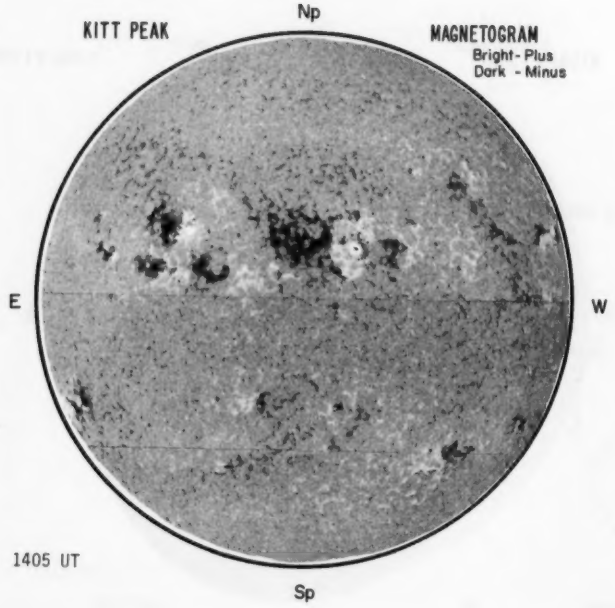
±200

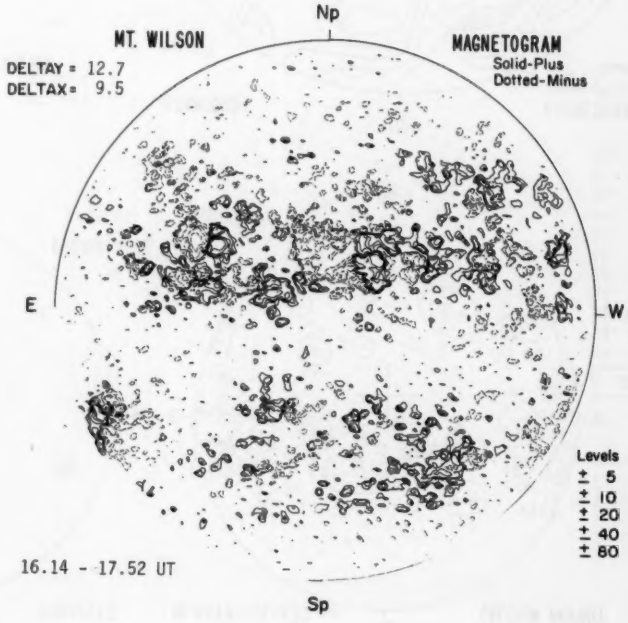
1800 UT

Sp

SEPTEMBER 2, 1979 (P = 21.20, B_o = 7.20, L_o = 100.86)







Sp

Sp

02

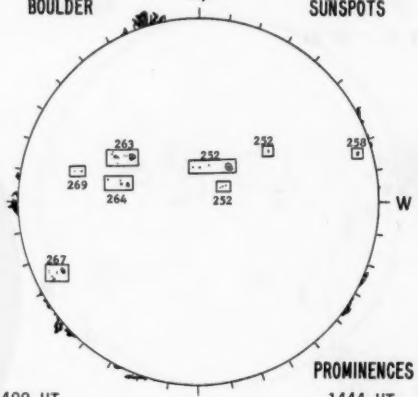
BOULDER Np Hα

E W

1444 UT

Sp

BOULDER Np SUNSPOTS



E W

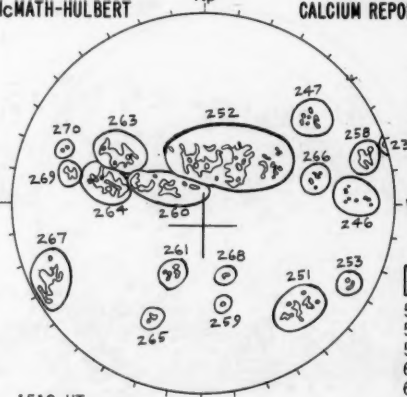
1400 UT

PROMINENCES

1444 UT

Sp

McMATH-HULBERT Np CALCIUM REPORT



E W

1510 UT

Sp

POOR	S
51- 1400-3.0	
52- 5500-3.0	
58- 0800-3.0	
60- 1500-2.5	
63- 2000-3.5	
64- 1800-3.0	
67- 2500-3.5	
69- 0500-3.0	

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E SCHEDULE W

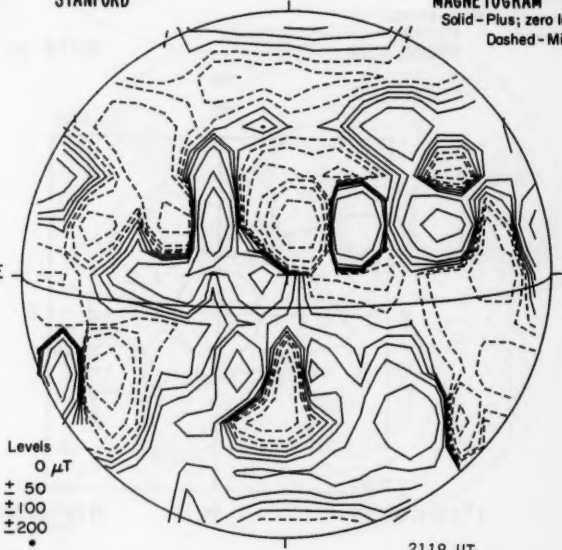
---- UT

Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

•

•

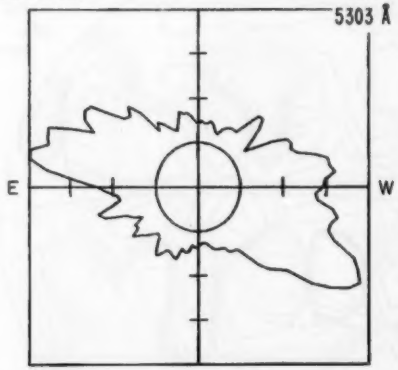
•

2118 UT

Sp

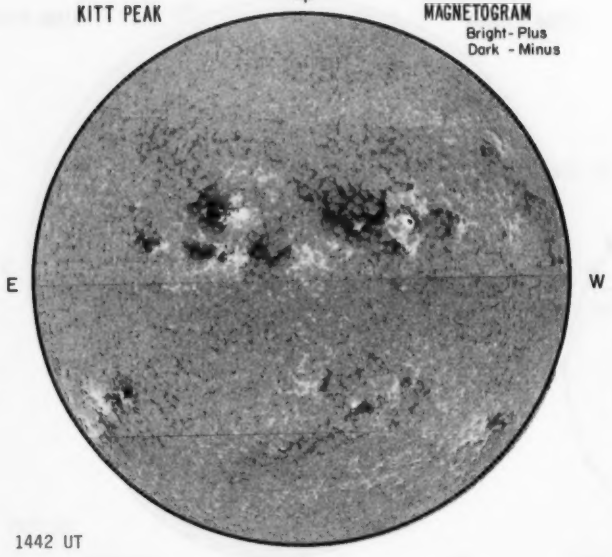
SEPTEMBER 3, 1979 (P = 21.45, B_o = 7.22, L_o = 87.65)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



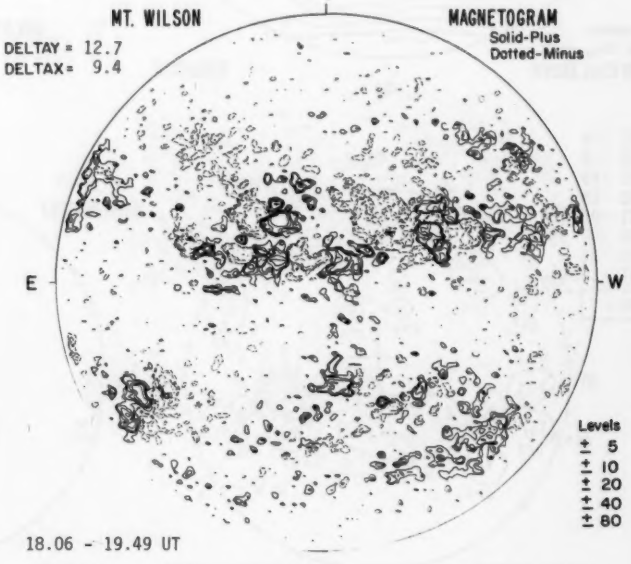
1428 UT Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1442 UT Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.4



18.06 - 19.49 UT Sp

Sp

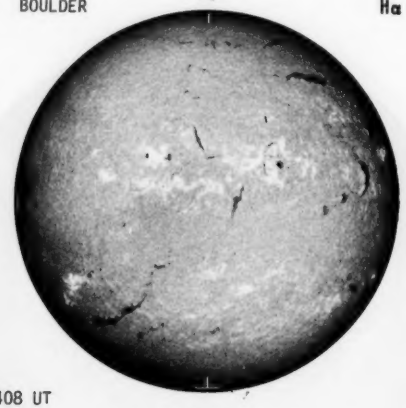
Sp

03

BOULDER

Np

Hα



E

W

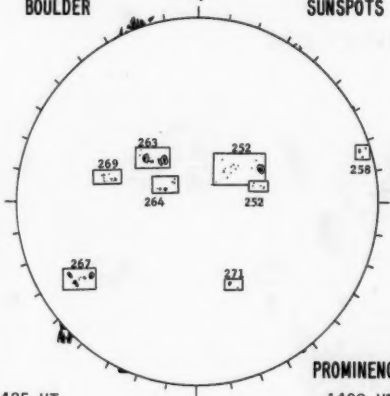
1408 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1425 UT

Sp

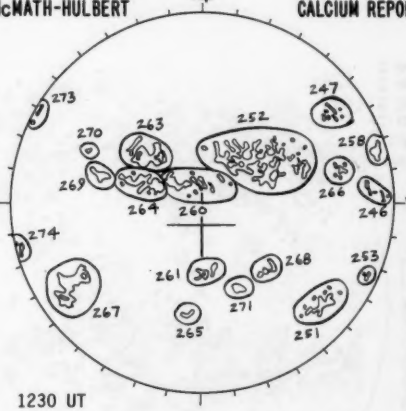
PROMINENCES

1408 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1230 UT

Sp

FAIR	S
51-	1900-2.5
52-	5800-3.0
53-	0300-2.5
58-	1000-3.0
60-	1500-2.5
63-	2300-3.0
64-	1700-2.5
65-	0200-2.5
67-	3600-3.0
69-	0900-3.5
71-	0500-2.5

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100° K

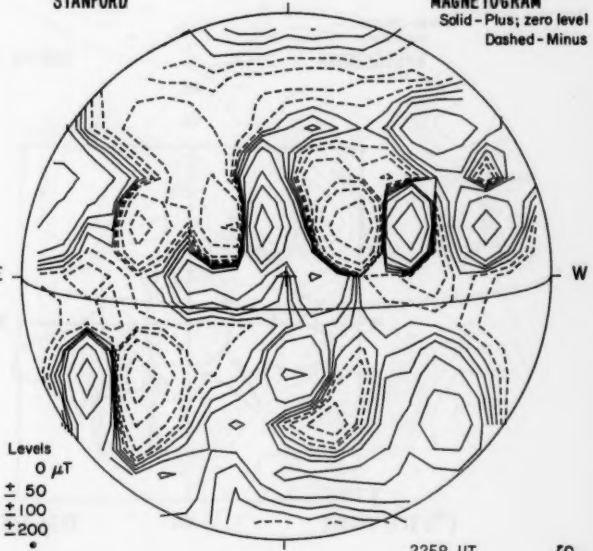
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

2258 UT

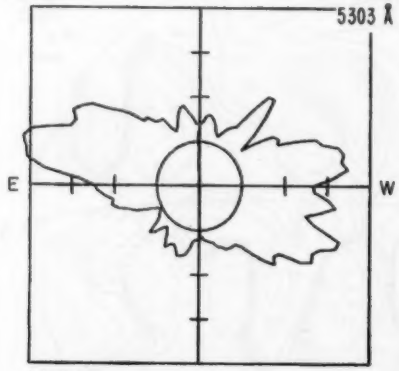
Sp

SEPTEMBER 4, 1979 (P = 21.69, B_o = 7.23, L_o = 74.44)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å



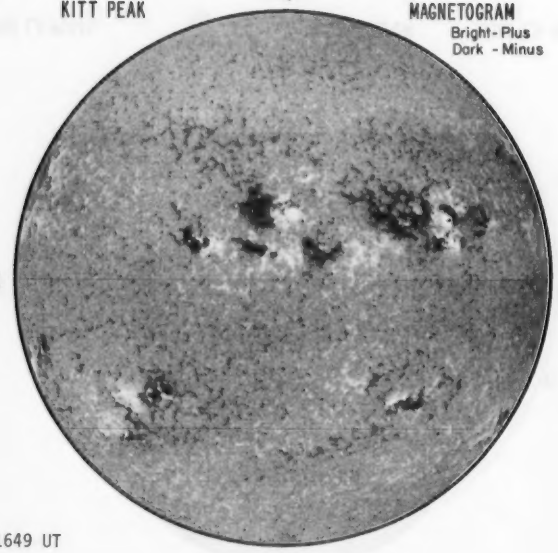
1418 UT

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus



1649 UT

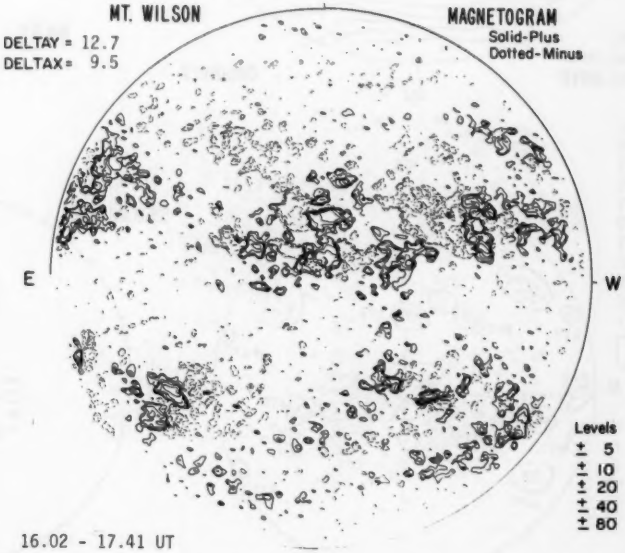
Sp

MT. WILSON

Np

DELTAY = 12.7
DELTAX = 9.5

MAGNETOGRAM
Solid-Plus
Dotted-Minus



16.02 - 17.41 UT

Sp

Sp

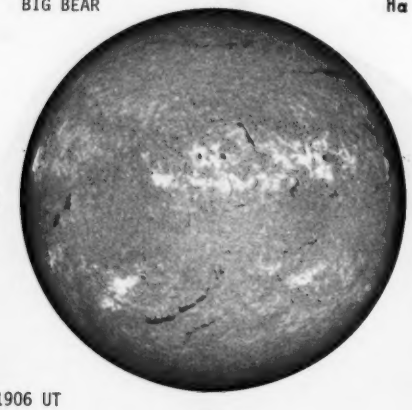
Sp

04

BIG BEAR

Np

Hα



E

W

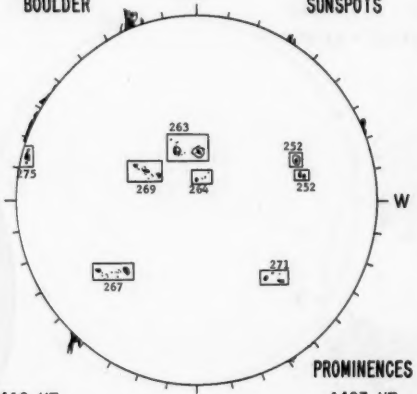
1906 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1410 UT

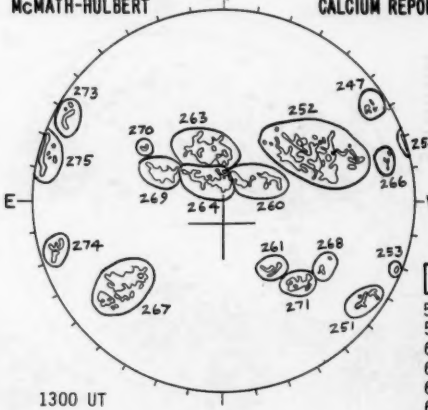
1437 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1300 UT

Sp

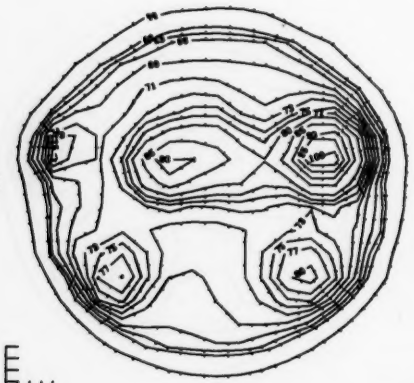
GOOD	S

51- 1600-2.5
52- 5800-4.0
60- 1500-2.5
63- 2800-3.0
67- 4000-3.0
69- 1400-3.0
71- 1000-3.0
75- 2700-3.5

NOSC LA POSTA

Np

2.0 CM



E

W

1806 UT

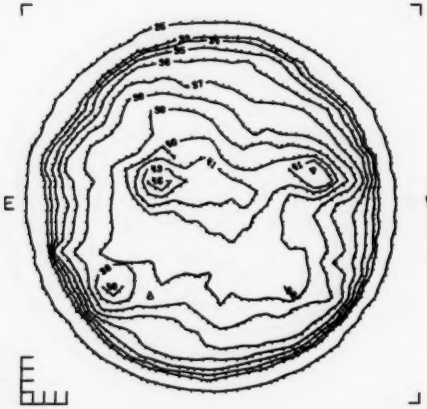
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1708 UT

Sp

Ant. Temp. Unit 100° K

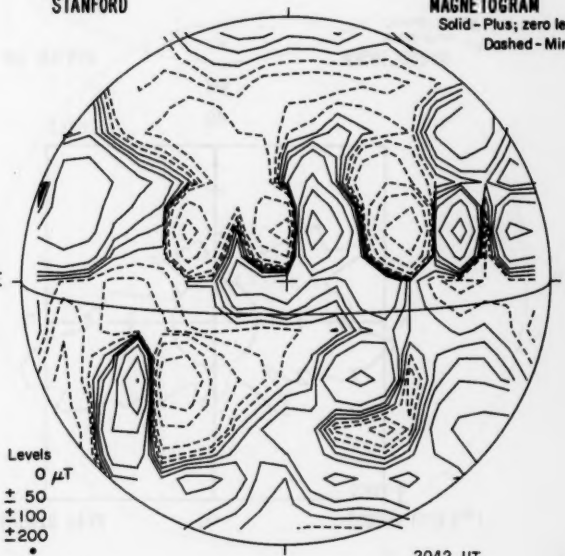
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

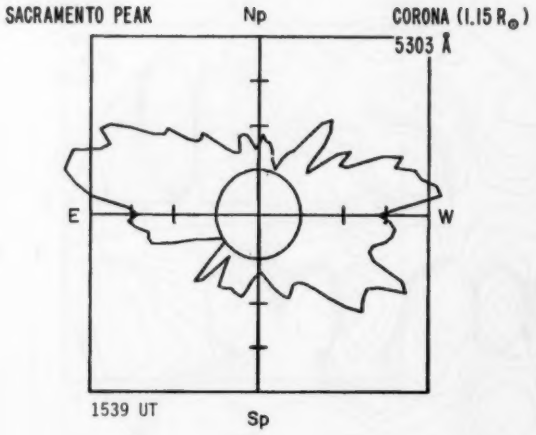
2042 UT

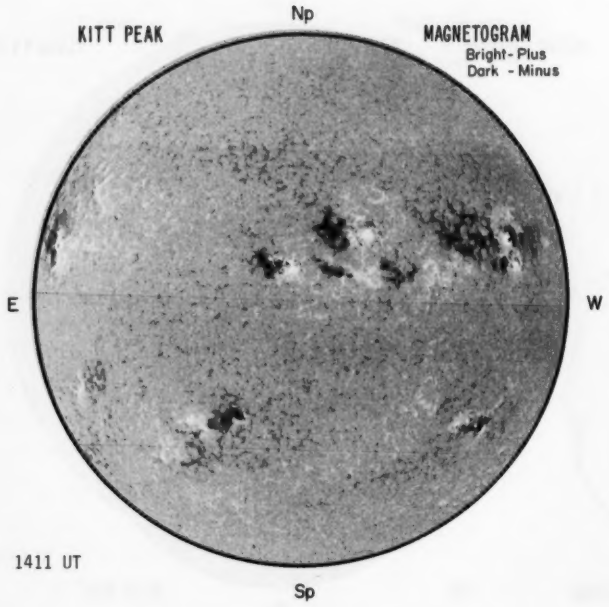
Sp

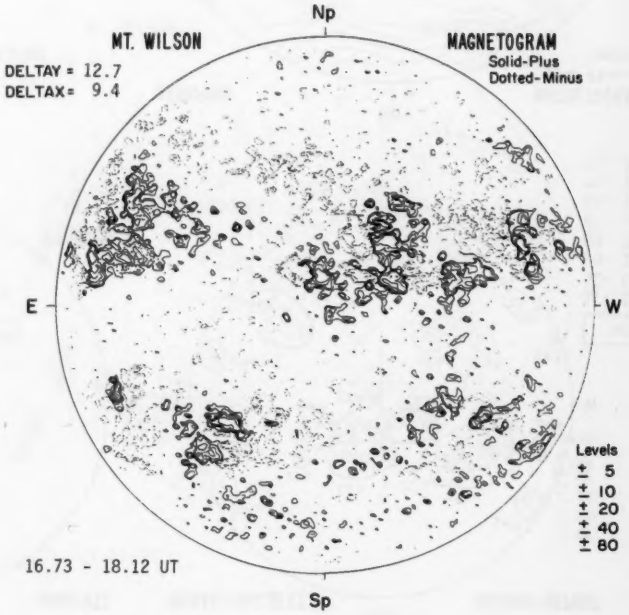
57

Sep 79

SEPTEMBER 5, 1979 (P = 21.93, B_o = 7.24, L_o = 61.23)



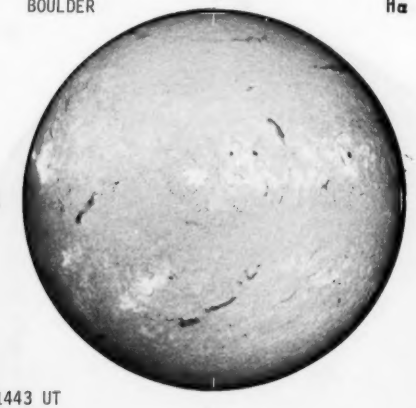




Sp Sp

05

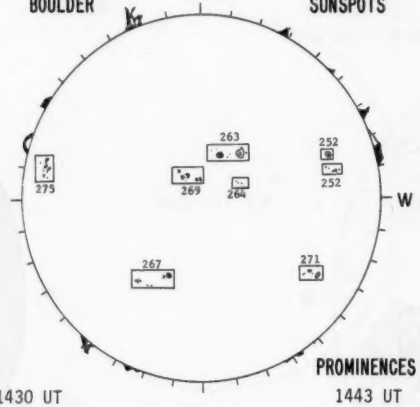
BOULDER Np Hα



E W

1443 UT Sp

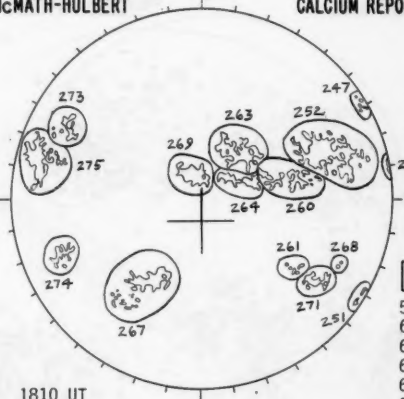
BOULDER Np SUNSPOTS



E W

1430 UT Sp PROMINENCES 1443 UT

McMATH-HULBERT Np CALCIUM REPORT

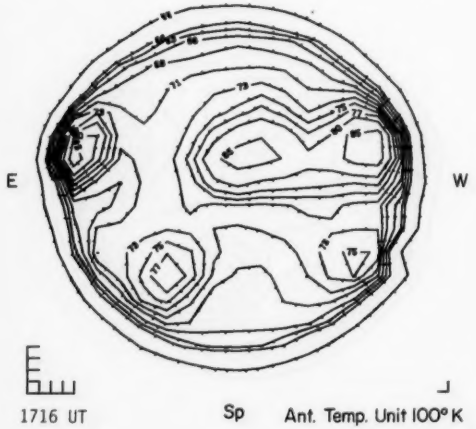


E W

1810 UT Sp

GOOD	B
52- 6500-3.0	
60- 1700-2.5	
63- 2500-3.0	
64- 1400-4.0	
67- 3600-3.0	
69- 1800-3.0	
71- 1400-2.5	
74- 1300-2.5	
75- 5500-3.5	

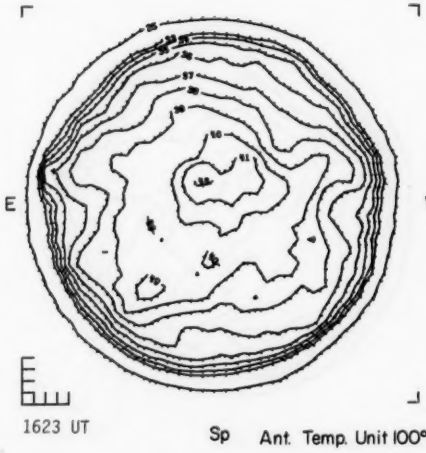
NOSC LA POSTA Np 2.0 CM



E W

1716 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



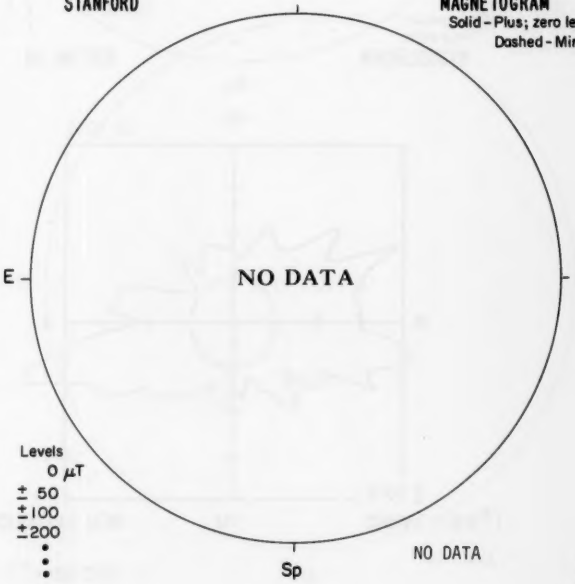
E W

1623 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

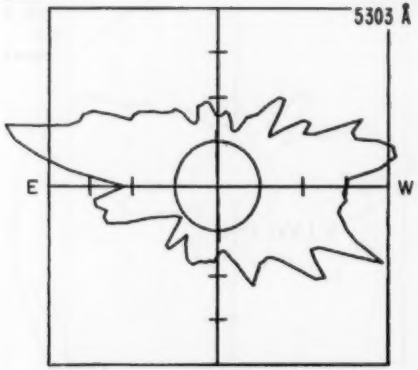
NO DATA Sp

59

Sep 79

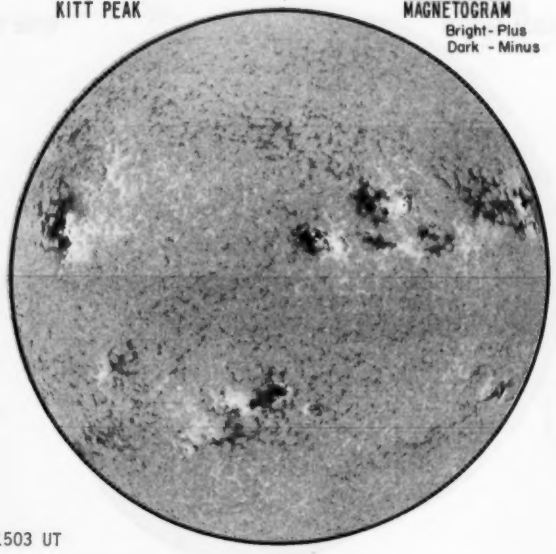
SEPTEMBER 6, 1979 (P = 22.16, B_o = 7.24, L_o = 48.02)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



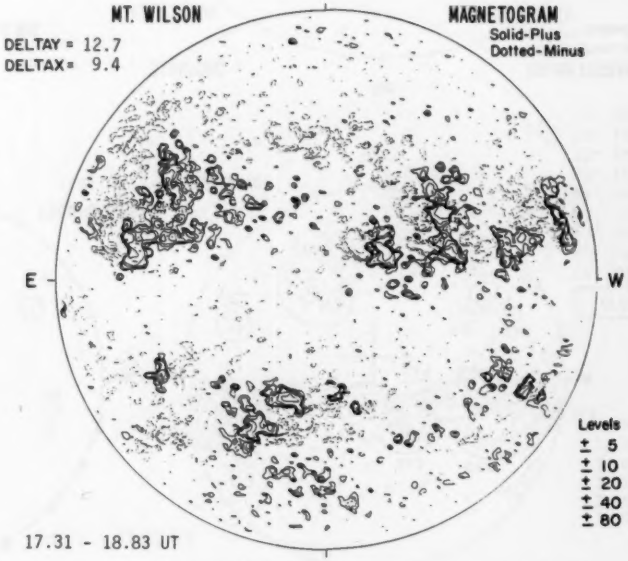
1501 UT Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1503 UT Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.4



17.31 - 18.83 UT Sp

Sp

Sp

06

BIG BEAR

Np

Hα

E

W

1922 UT

Sp

BOULDER

Np

SUNSPOTS

E

NO DATA

W

NO DATA

PROMINENCES

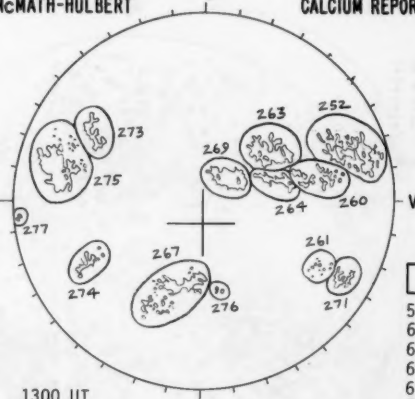
1408 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1300 UT

Sp

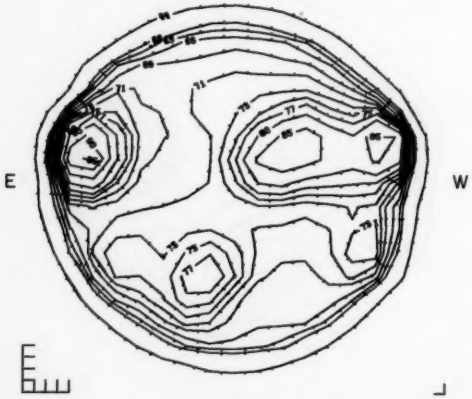
GOOD	M

52- 6500-3.0
60- 1600-2.5
63- 2700-3.0
64- 1400-3.0
67- 3400-3.0
69- 2200-3.5
74- 1000-2.5
75- 5500-3.5

NOSC LA POSTA

Np

2.0 CM



E

W

1712 UT

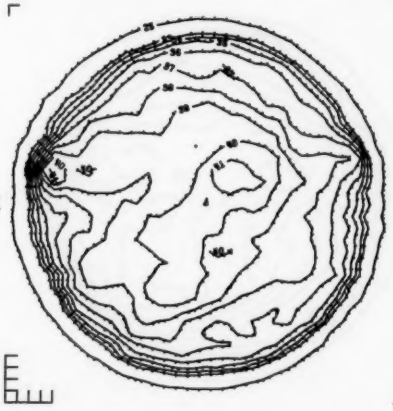
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1614 UT

Sp

Ant. Temp. Unit 100° K

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E

NO DATA

W

Levels

0 μT

± 50

±100

±200

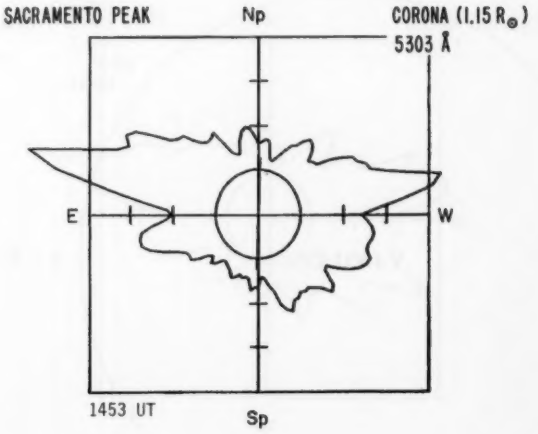
Sp

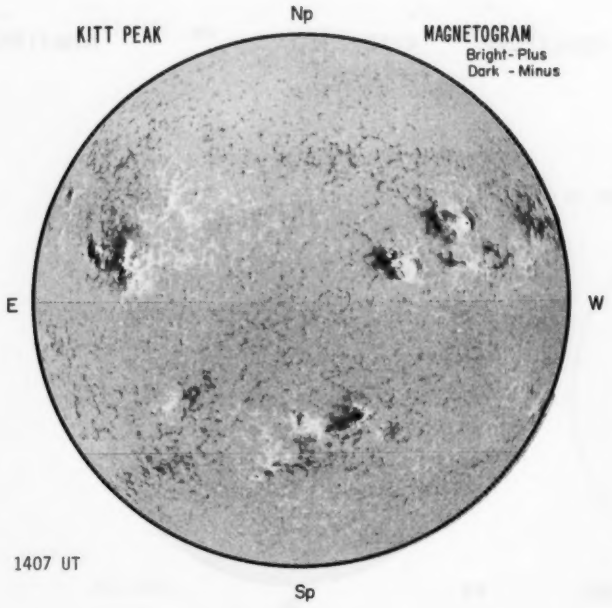
NO DATA

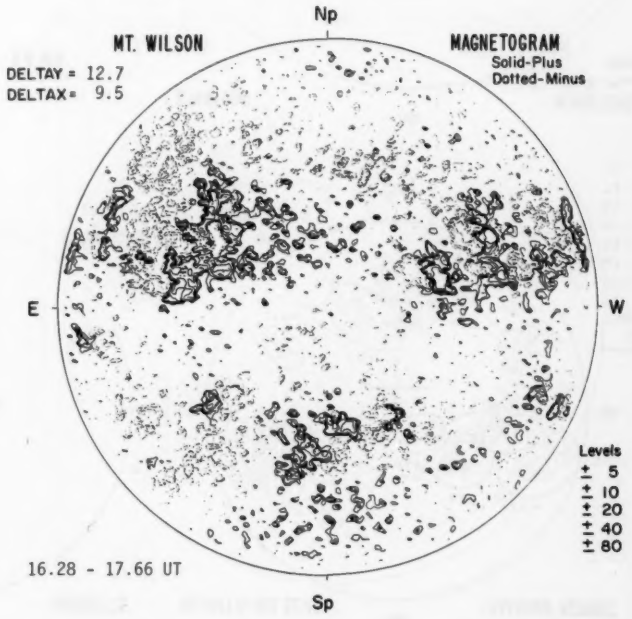
Sep 79

61

SEPTEMBER 7, 1979 (P = 22.39, B_o = 7.25, L_o = 34.82)







Sp

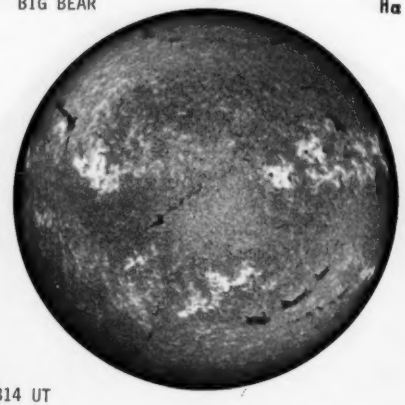
Sp

07

BIG BEAR

Np

Hα



E

W

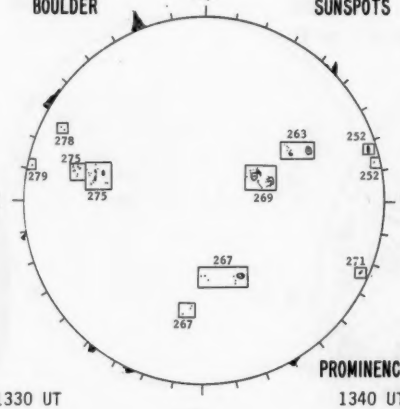
1814 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1330 UT

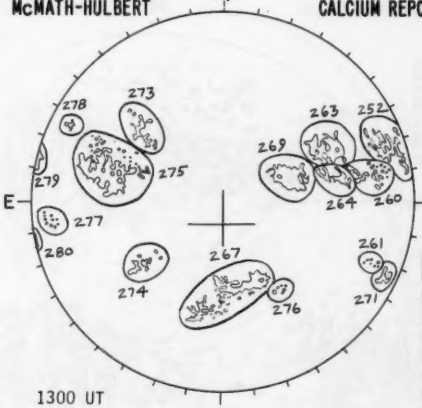
1340 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1300 UT

Sp

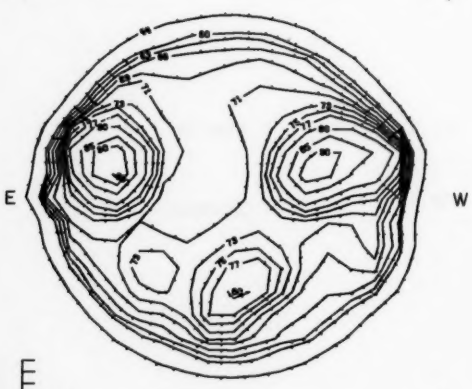
GOOD	M

52- 5500-2.5
60- 1600-2.5
63- 3300-3.0
64- 1300-3.0
67- 3500-2.5
69- 2600-3.5
74- 0800-2.5
75- 6000-3.5
78- 0300-2.5

NOSC LA POSTA

Np

2.0 CM



E

W

1625 UT

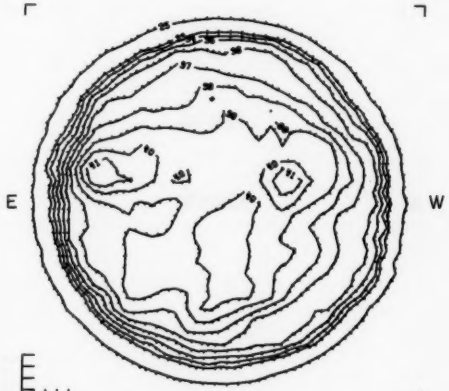
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1530 UT

Sp

Ant. Temp. Unit 100° K

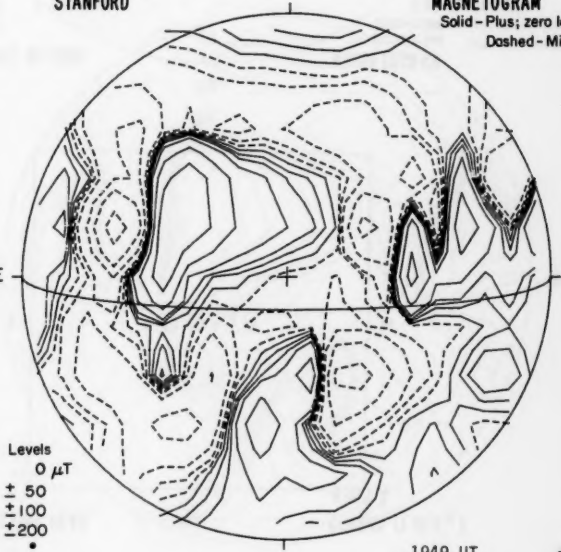
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

1949 UT

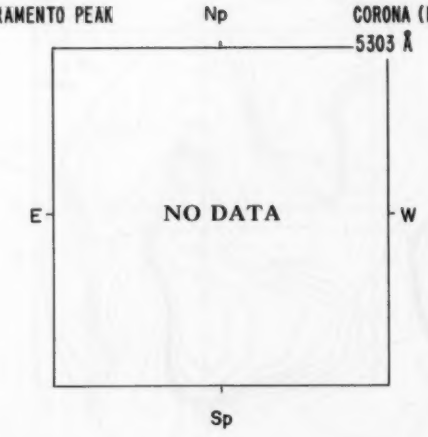
Sp

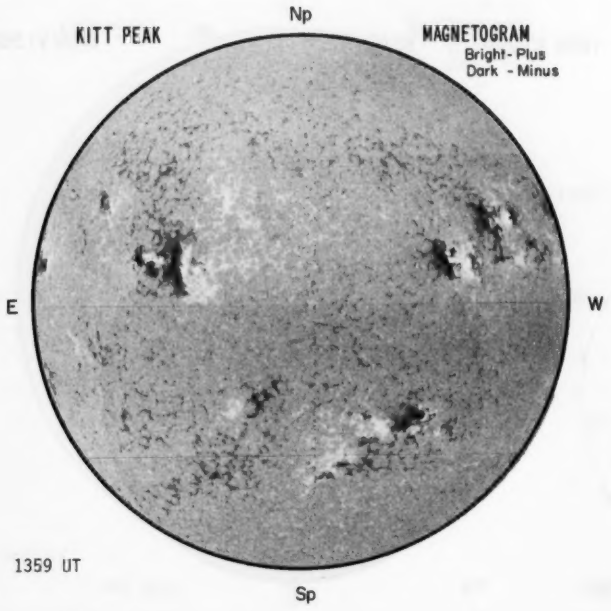
63

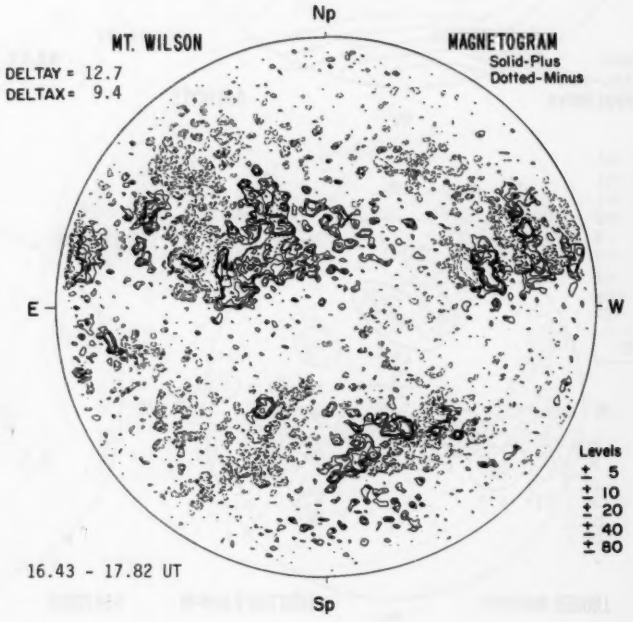
Sep 79

SEPTEMBER 8, 1979 (P = 22.61, B_o = 7.25, L_o = 21.61)

SACRAMENTO PEAK





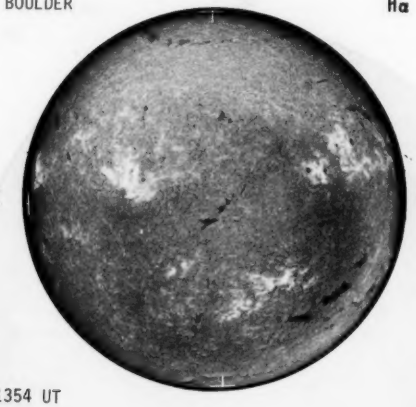


Sp

Sp

08

BOULDER Np Hα

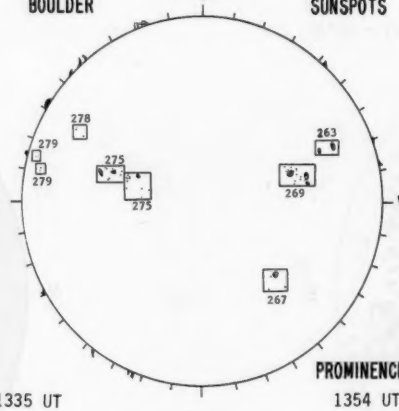


E W

1354 UT

Sp

BOULDER Np SUNSPOTS



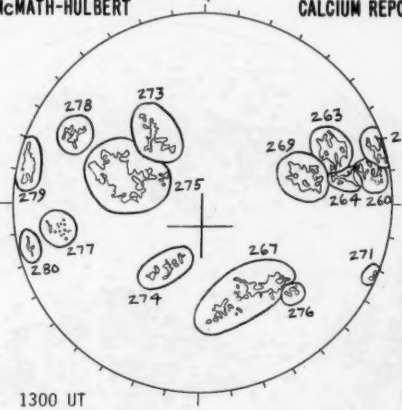
E W

PROMINENCES

1335 UT 1354 UT

Sp

McMATH-HULBERT Np CALCIUM REPORT



E W

1300 UT

Sp

FAIR	M

52- 3500-2.5
60- 1600-2.5
63- 3500-3.0
64- 1300-3.0
67- 3300-2.5
69- 2800-3.5
74- 0800-2.5
75- 6000-3.0
79- 3000-3.5

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

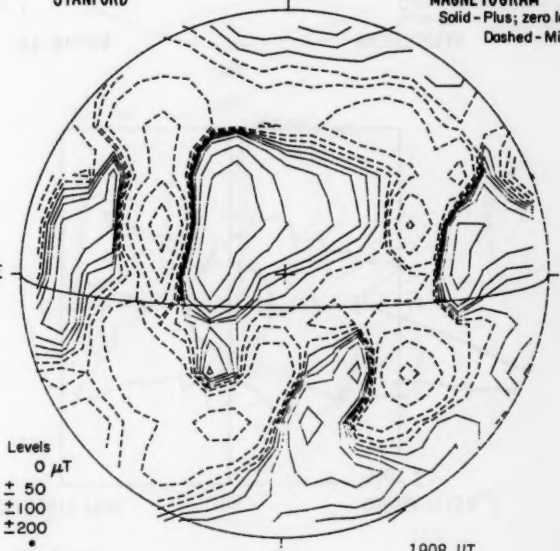
NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



E W

Levels
0 μT
± 50
±100
±200

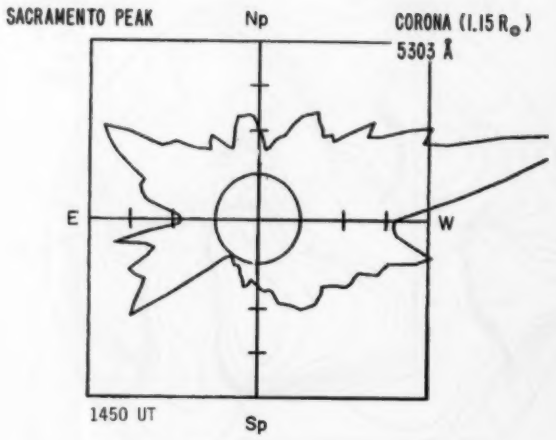
1908 UT

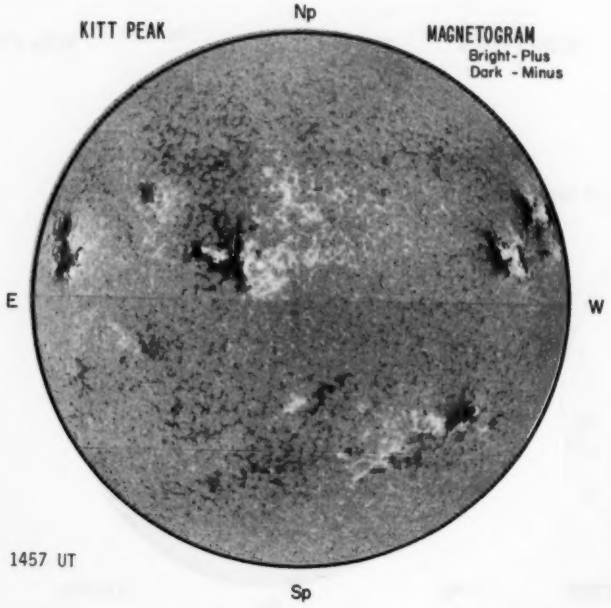
Sp

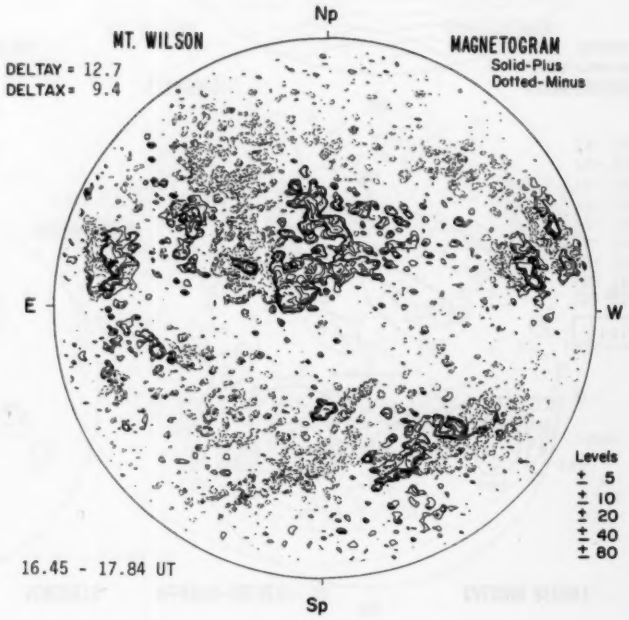
Sep 79

65

SEPTEMBER 9, 1979 (P = 22.82, B_o = 7.25, L_o = 8.40)







Sp

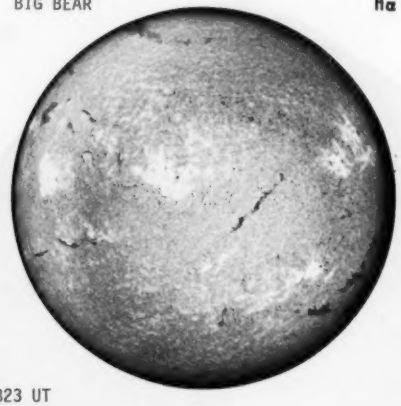
Sp

09

BIG BEAR

Np

Hα



E

W

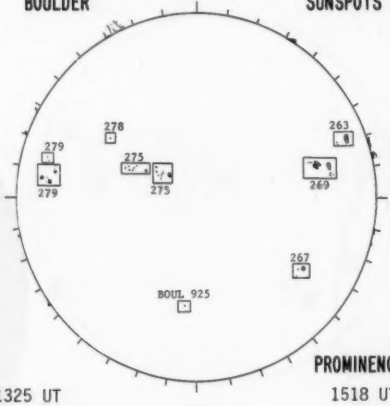
1823 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1325 UT

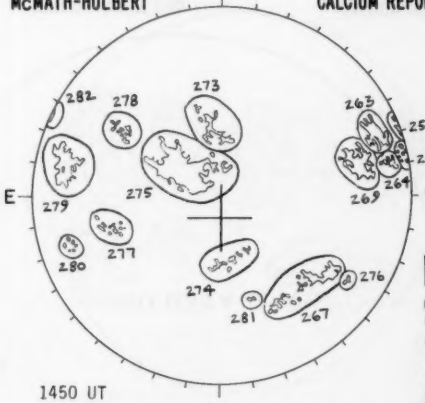
1518 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1450 UT

Sp

GOOD	M

63- 3300-2.5
67- 3500-2.5
69- 3000-3.5
75- 6300-4.0
79- 4300-3.5
82- 0800-2.5

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

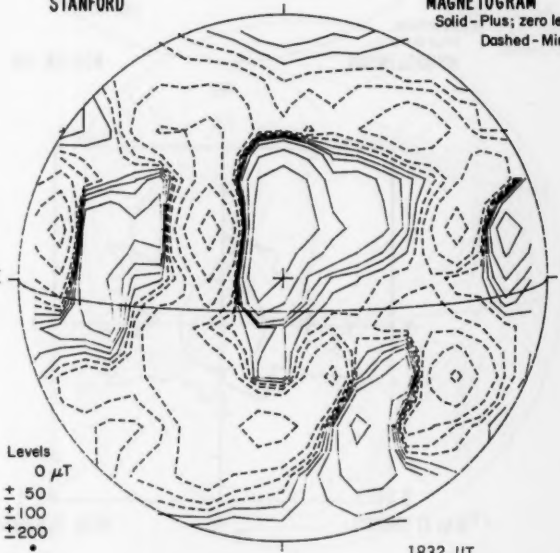
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

1832 UT

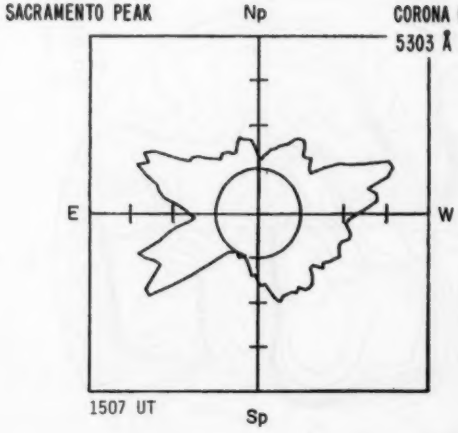
Sp

67

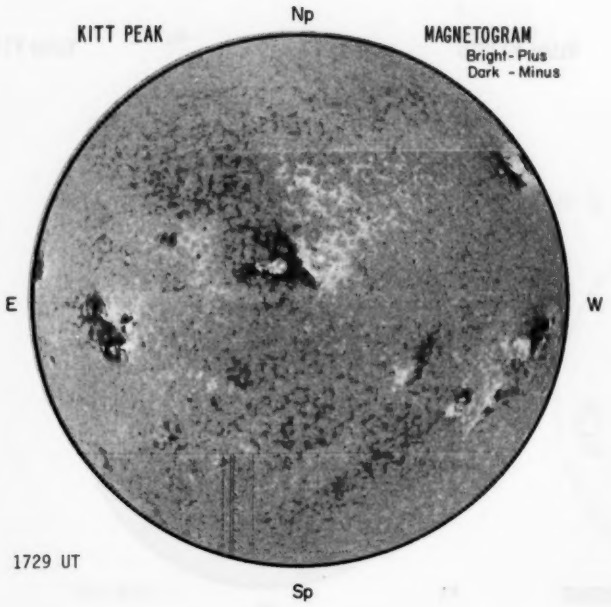
Sep 79

SEPTEMBER 10, 1979 (P = 23.03, B_o = 7.25, L_o = 355.20)

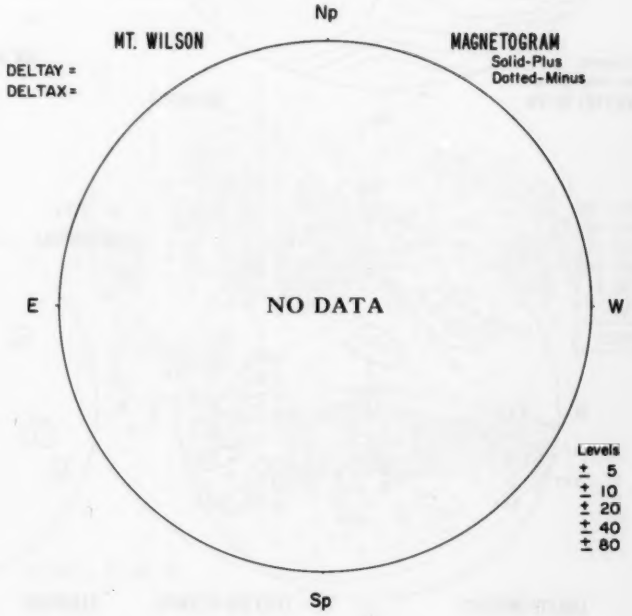
SACRAMENTO PEAK



KITT PEAK



MT. WILSON



Sp

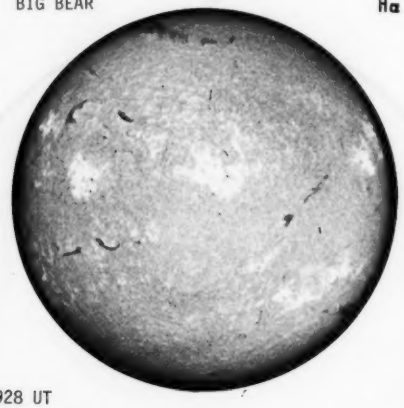
Sp

IO

BIG BEAR

Np

Hα



E

W

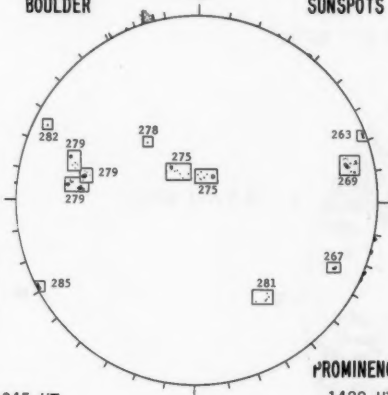
1928 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1345 UT

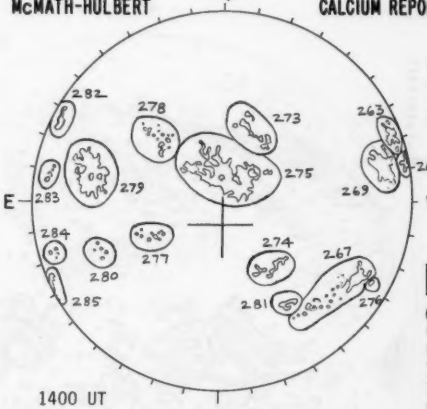
1428 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1400 UT

Sp

POOR	S

63- 2700-2.5
67- 2700-2.5
69- 3900-3.5
75- 6600-3.5
79- 4700-3.5
81- 0400-2.5
82- 1100-3.0

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

EQUIPMENT

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

EQUIPMENT

W

---- UT

Sp

Ant. Temp. Unit 100° K

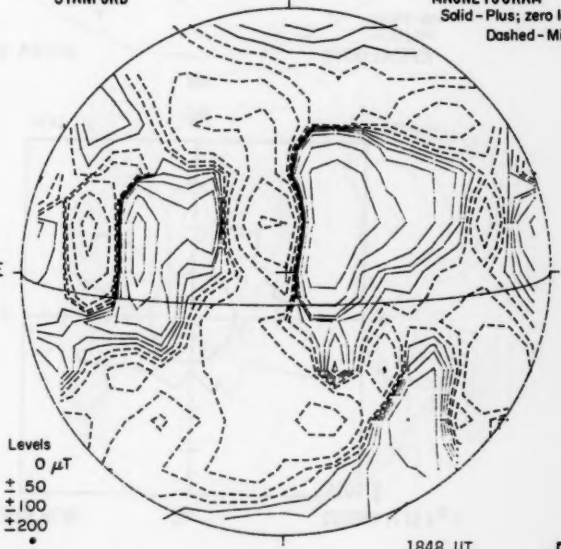
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

1848 UT

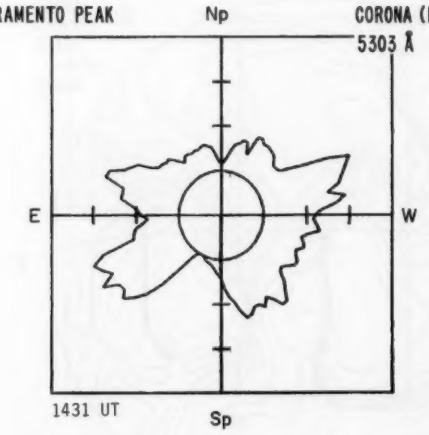
Sp

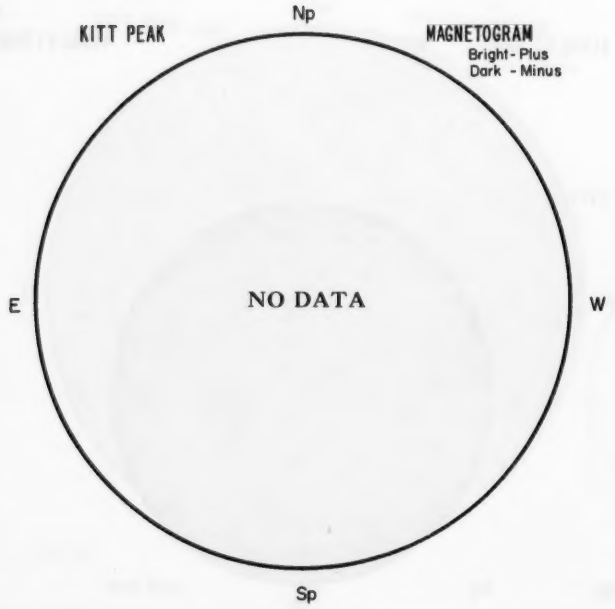
69

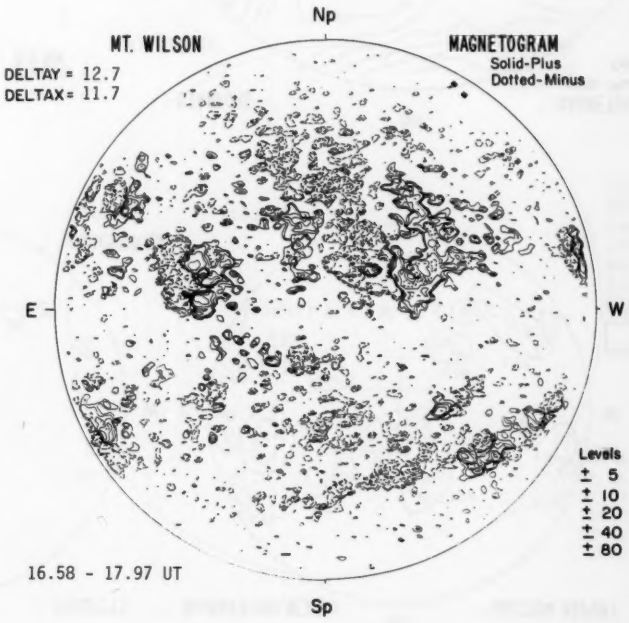
Sep 79

SEPTEMBER 11, 1979 (P = 23.23, B_o = 7.24, L_o = 341.99)

SACRAMENTO PEAK





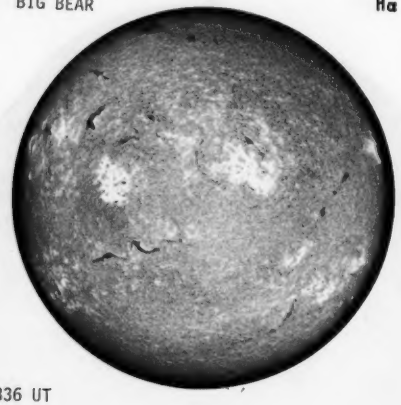


Sp

Sp

II

BIG BEAR Np Hα



E W

1836 UT

Sp

BOULDER Np SUNSPOTS

NO DATA

E W

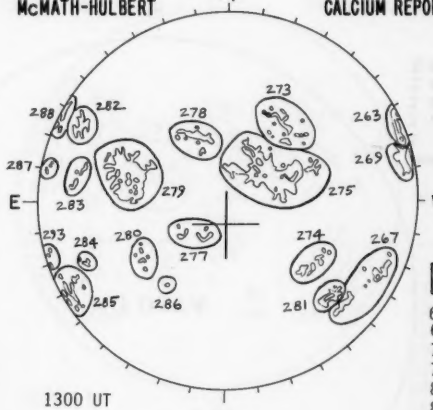
NO DATA

Sp

PROMINENCES

NO DATA

McMATH-HULBERT Np CALCIUM REPORT



E W

1300 UT

Sp

GOOD	M

67- 2900-3.0
69- 3500-3.5
75- 7000-3.5
79- 5400-3.5
81- 1000-3.0
82- 1400-2.5

NOSC LA POSTA Np 2.0 CM

NO DATA

E EQUIPMENT W

---- UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

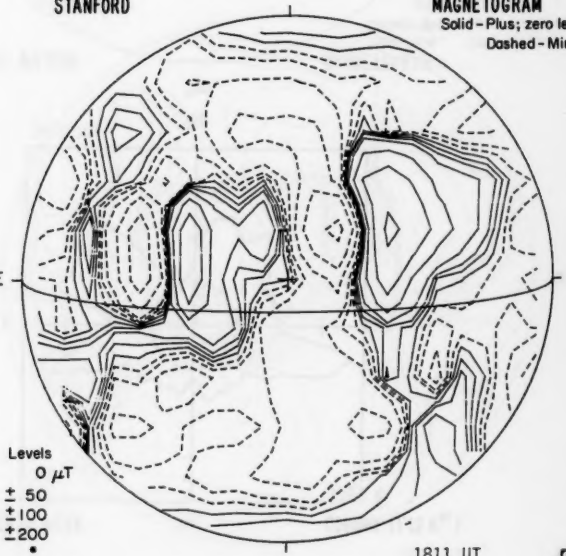
E EQUIPMENT W

---- UT

Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



E W

Levels 0 μT
± 50
±100
±200

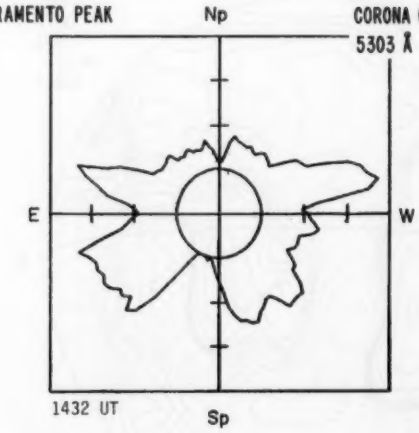
1811 UT

Sp

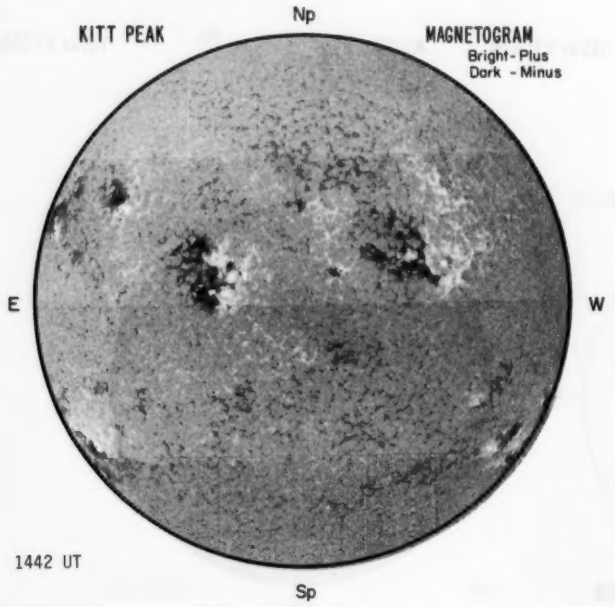
71
Sep 79

SEPTEMBER 12, 1979 (P = 23.43, B_o = 7.24, L_o = 328.79)

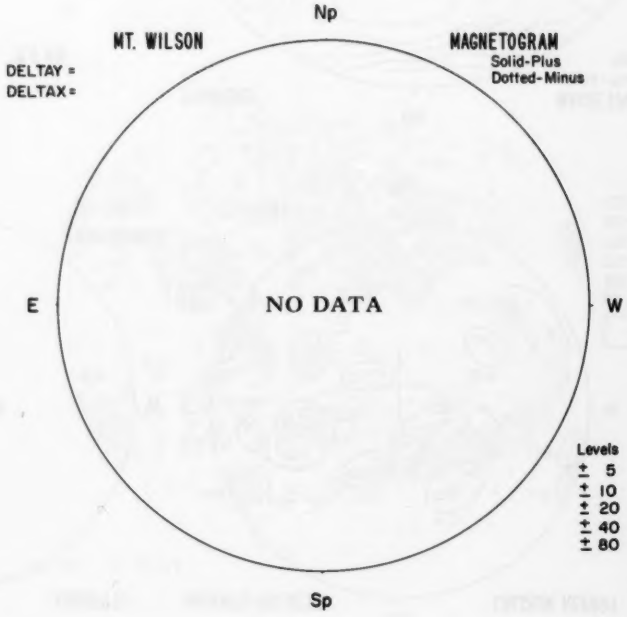
SACRAMENTO PEAK



1432 UT



1442 UT

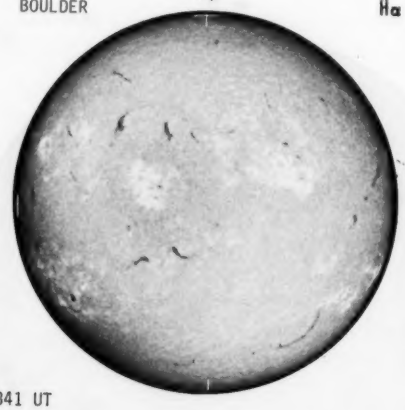


Sp

Sp

12

BOULDER Np Hα

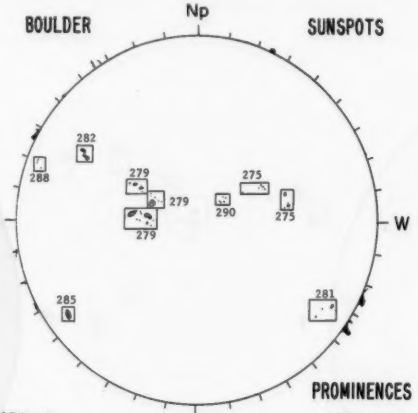


E W

1341 UT

Sp

BOULDER Np SUNSPOTS



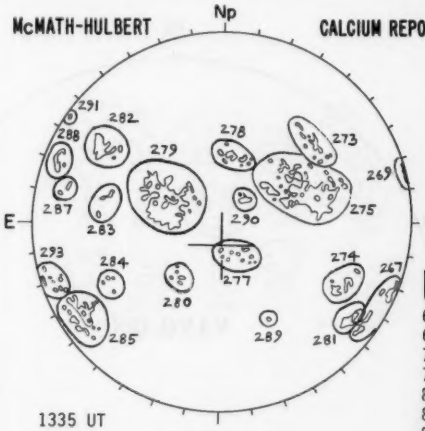
E W

PROMINENCES

1450 UT 1341 UT

Sp

McMATH-HULBERT Np CALCIUM REPORT



E W

1335 UT

Sp

FAIR	S
67-	2500-3.0
69-	0800-2.5
75-	7000-3.5
79-	6000-3.5
81-	1300-2.5
82-	1800-3.5
85-	2800-2.5
88-	1500-3.0
90-	0400-3.0

NOSC LA POSTA Np 2.0 CM

NO DATA

E EQUIPMENT W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

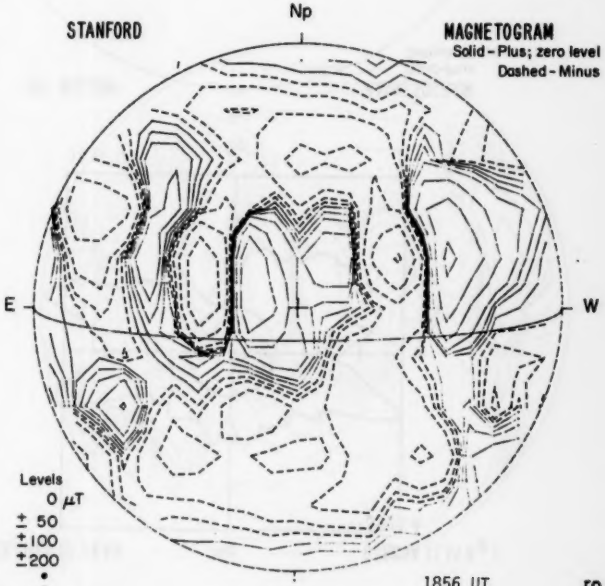
E EQUIPMENT W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

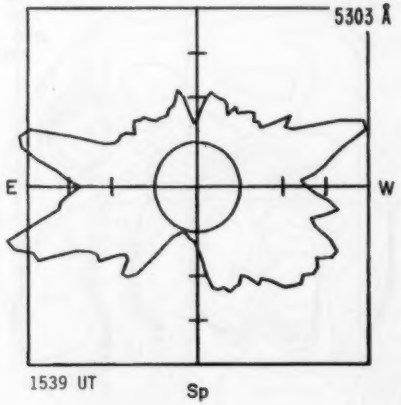
1856 UT

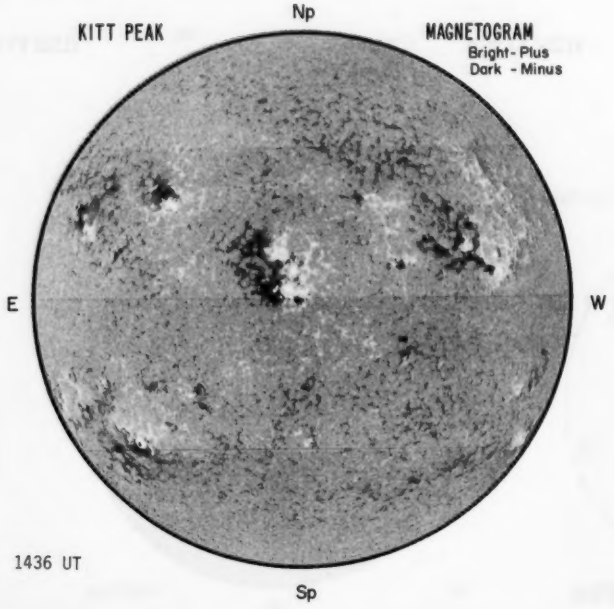
Sp

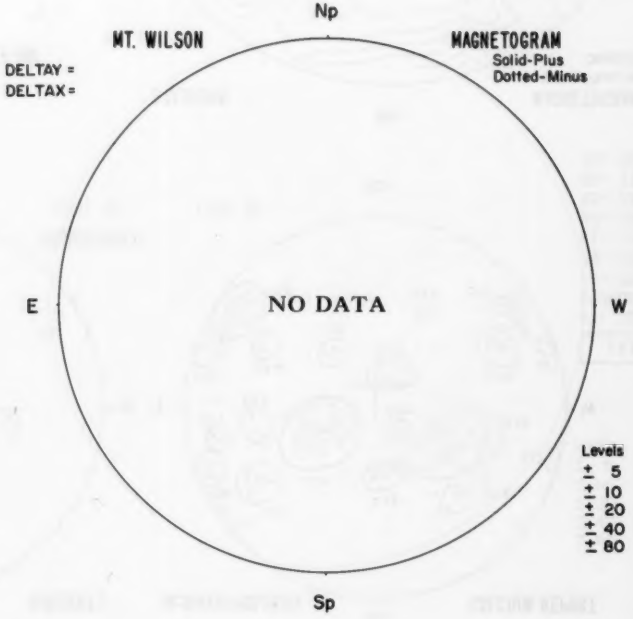
73 Sep 79

SEPTEMBER 13, 1979 (P = 23.62, B_o = 7.23, L_o = 315.58)

SACRAMENTO PEAK







Sp

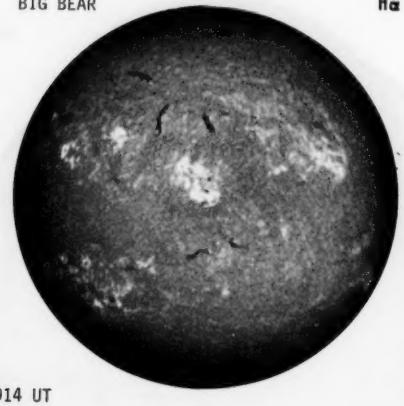
Sp

13

BIG BEAR

Np

Hα



E

W

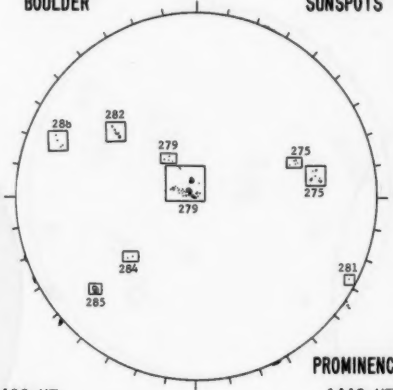
1914 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1400 UT

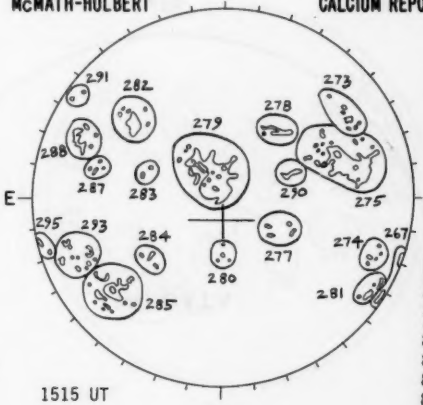
1442 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1515 UT

Sp

POOR	S
75-	6800-3.0
79-	6300-3.5
81-	1200-2.5
82-	1600-2.5
85-	2600-3.0
88-	1500-3.0
90-	0400-2.5

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

EQUIPMENT

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

EQUIPMENT

W

---- UT

Sp

Ant. Temp. Unit 100° K

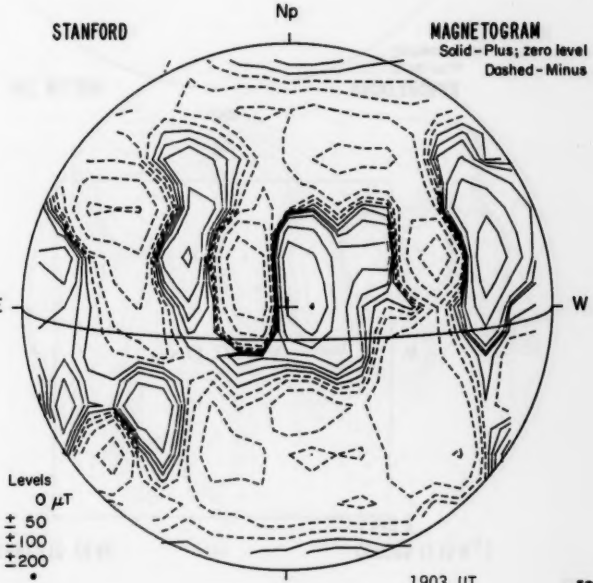
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

1903 UT

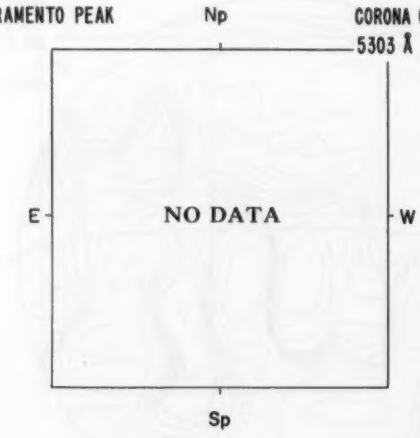
Sp

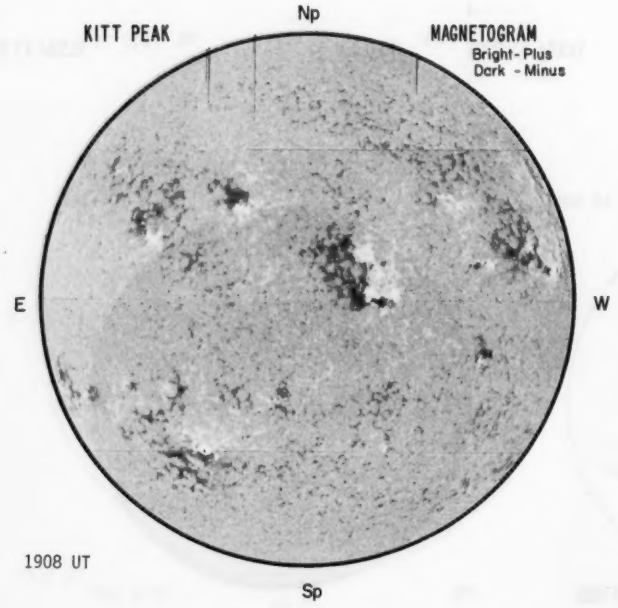
75

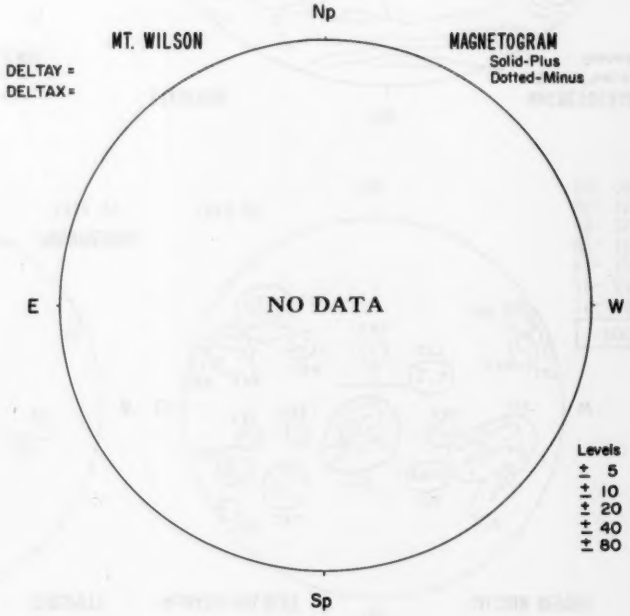
Sep 79

SEPTEMBER 14, 1979 (P = 23.81, B_o = 7.22, L_o = 302.38)

SACRAMENTO PEAK

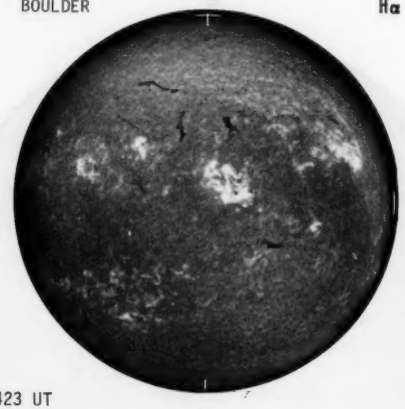






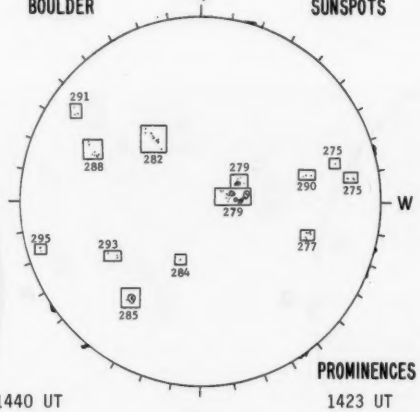
14

BOULDER Np Hα



1423 UT

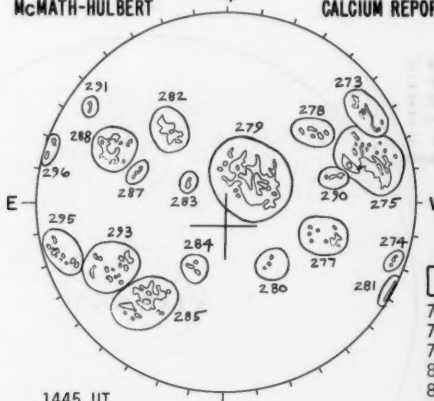
BOULDER Np SUNSPOTS



PROMINENCES

1440 UT 1423 UT

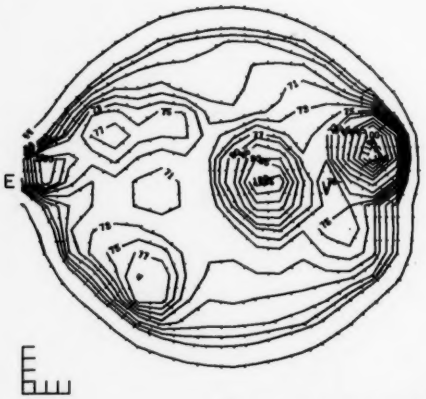
McMATH-HULBERT Np CALCIUM REPORT



1445 UT

FAIR	S
75- 5800	3.0
77- 0600	3.0
79- 6200	3.0
81- 0800	2.5
82- 1600	3.0
85- 2800	2.5
88- 1500	3.0
90- 0300	3.0

NOSC LA POSTA Np 2.0 CM



1700 UT Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

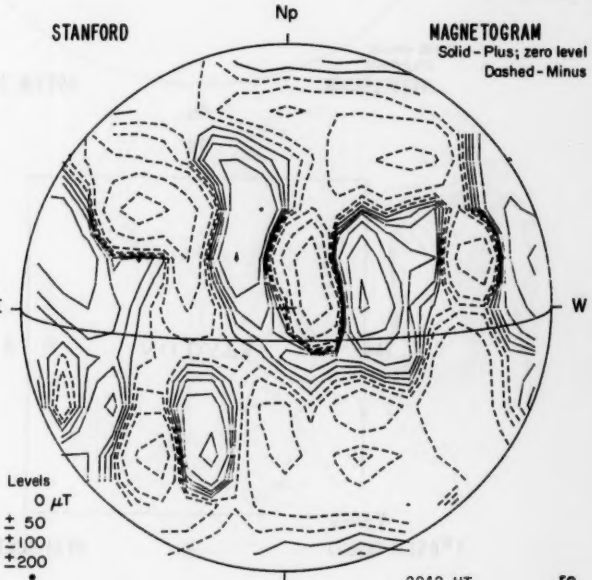
NO DATA

CALIBRATION

1606 UT Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



Levels
0 μT
± 50
±100
±200

2042 UT

77 Sep 79

SEPTEMBER 15, 1979 (P = 23.99, B_o = 7.21, L_o = 289.18)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E — NO DATA — W

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus

E

W

1530 UT

Sp

MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E — NO DATA — W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

15

Np

Np

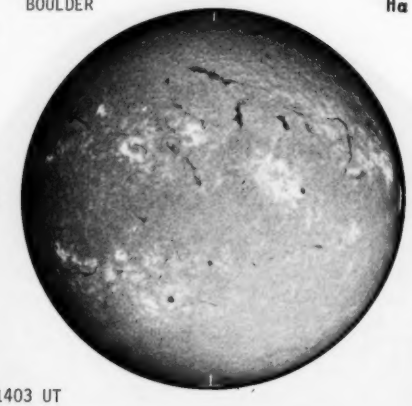
Np

Sp

Sp

15

BOULDER Np Hα

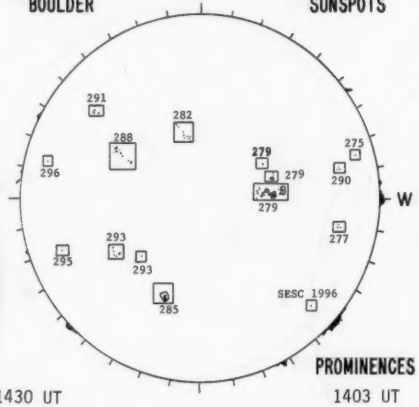


E W

1403 UT

Sp

BOULDER Np SUNSPOTS



E W

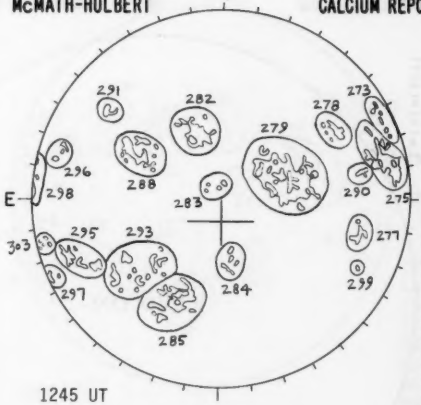
1430 UT

Sp

PROMINENCES

1403 UT

McMATH-HULBERT Np CALCIUM REPORT



E W

1245 UT

Sp

GOOD	S
75- 5500-3.0	
77- 0800-2.5	
79- 7000-3.5	
82- 1800-3.5	
85- 2800-3.0	
88- 1700-3.0	
90- 0300-2.5	
91- 0500-3.0	
93- 1800-2.5	
95- 1500-2.5	
96- 0500-2.5	
98- 2000-2.5	

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E SCHEDULE W

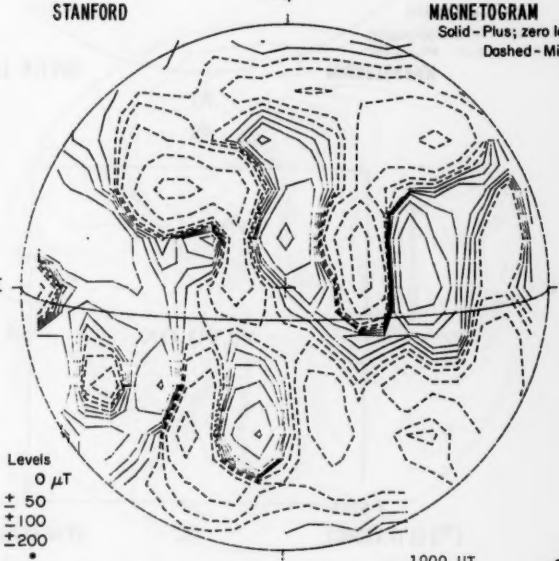
---- UT

Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

1900 UT

Sp

79

Sep 79

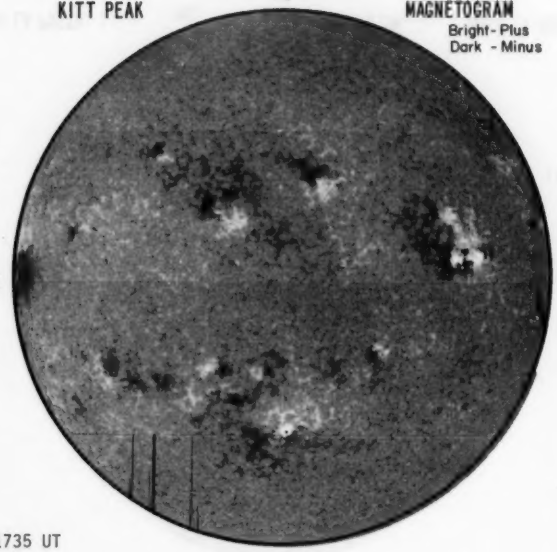
SEPTEMBER 16, 1979 (P=24.16, B_o=7.19, L_o=275.98)

SACRAMENTO PEAK — Np — CORONA (1.15 $R_\odot$) 5303 Å

E — NO DATA — W

Sp

KITT PEAK — Np — MAGNETOGRAM Bright-Plus Dark-Minus



E — W

1735 UT

Sp

MT. WILSON — Np — MAGNETOGRAM Solid-Plus Dotted-Minus

DELTAY =
DELTAX =

E — NO DATA — W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

16

Sp

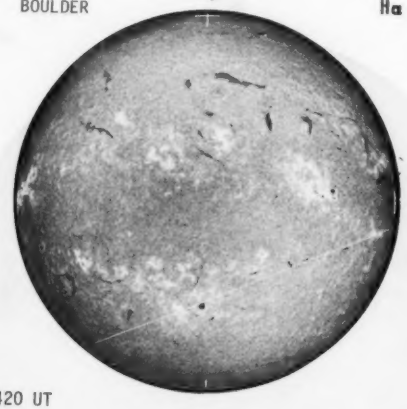
Sp

16

BOULDER

Np

Hα



E W

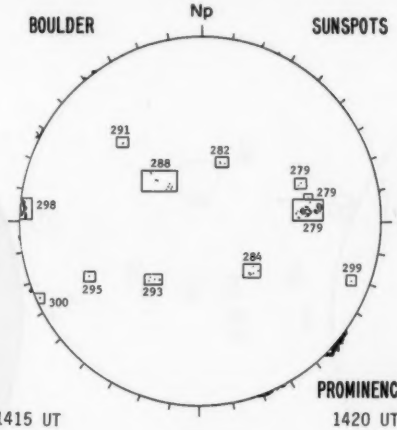
1420 UT

Sp

BOULDER

Np

SUNSPOTS



E W

1415 UT

PROMINENCES

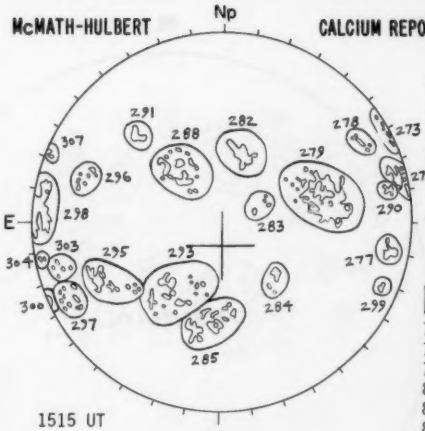
1420 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E W

1515 UT

Sp

GOOD	S
75-	3600-3.0
77-	1200-2.5
79-	6800-3.5
82-	2000-3.0
84-	0500-3.0
85-	2500-2.5
88-	2000-3.0
91-	0800-2.5
95-	1500-3.0
98-	7500-3.5

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

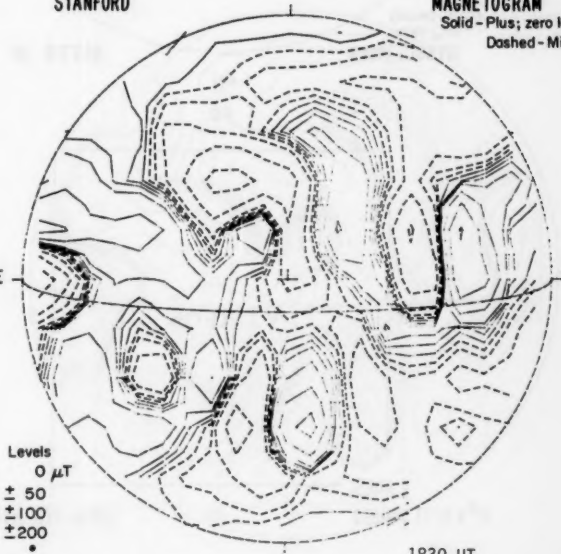
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

1830 UT

Sp

Sep 79

81

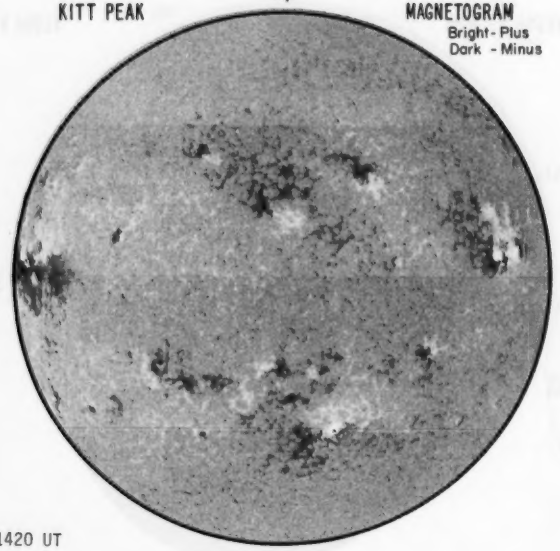
SEPTEMBER 17, 1979 (P = 24.32, B_o = 7.18, L_o = 262.77)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



E W

1420 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =

E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

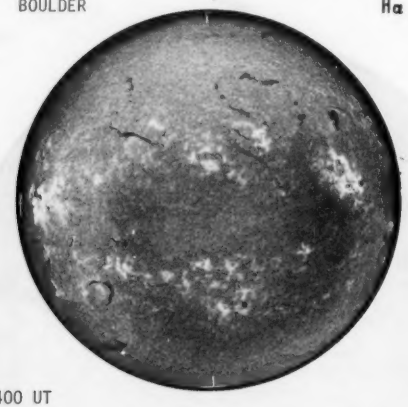
17

Sp

Sp

17

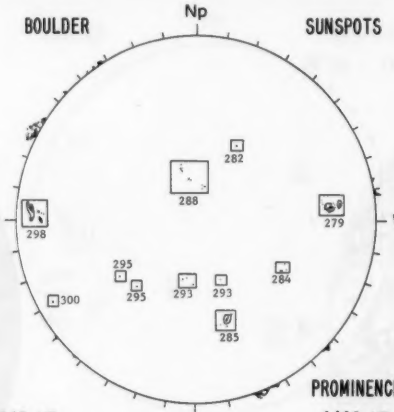
BOULDER Np Hα



E W

1400 UT Sp

BOULDER Np SUNSPOTS



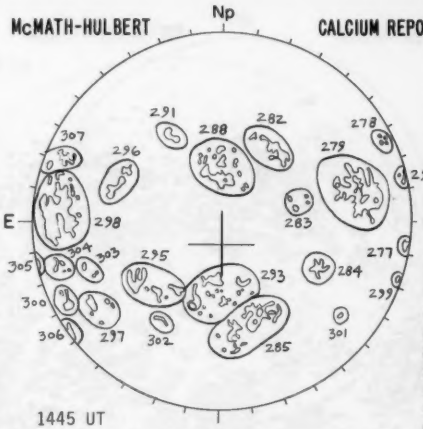
E W

1345 UT Sp

PROMINENCES

1400 UT

McMATH-HULBERT Np CALCIUM REPORT

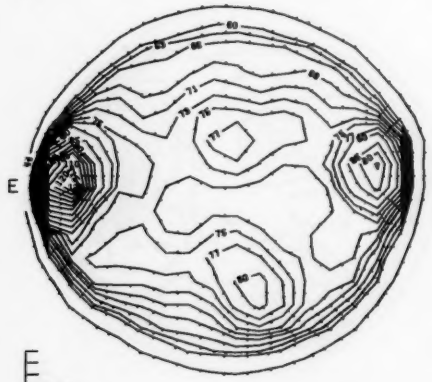


E W

1445 UT Sp

GOOD	S
79-	7100-3.5
82-	1800-3.0
84-	0600-2.5
85-	2800-2.5
88-	2000-2.5
91-	0800-2.5
93-	2000-2.5
95-	2300-2.5
96-	0800-2.5
98-	9000-3.5
02-	0300-2.5

NOSC LA POSTA Np 2.0 CM



E W

1709 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

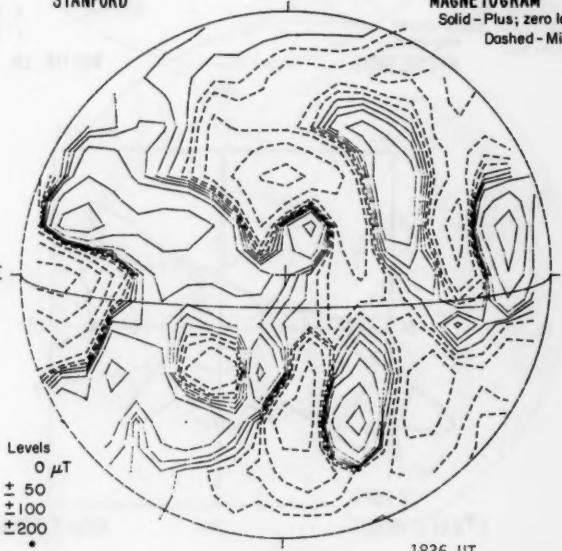
CALIBRATION

E W

1614 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



E W

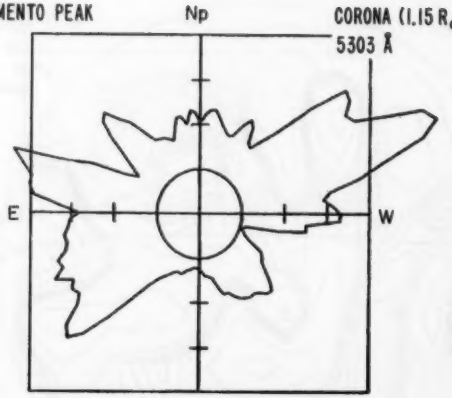
Levels
0 μT
± 50
±100
±200
•
•
•

1836 UT Sp

83
Sep 79

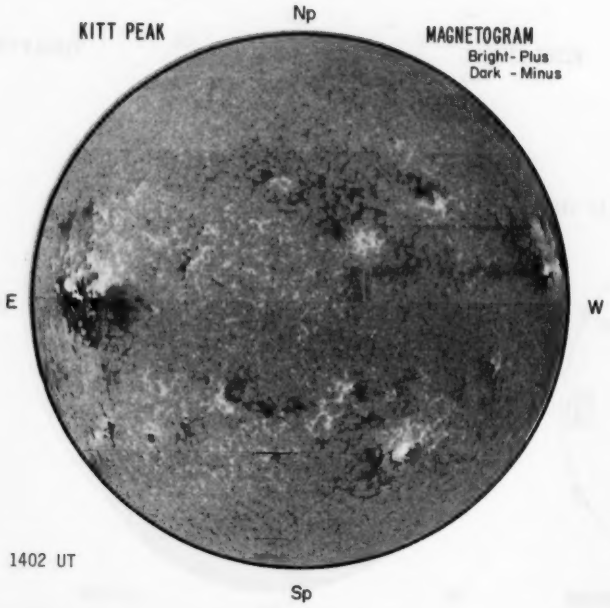
SEPTEMBER 18, 1979 (P = 24.48, B_o = 7.16, L_o = 249.57)

SACRAMENTO PEAK



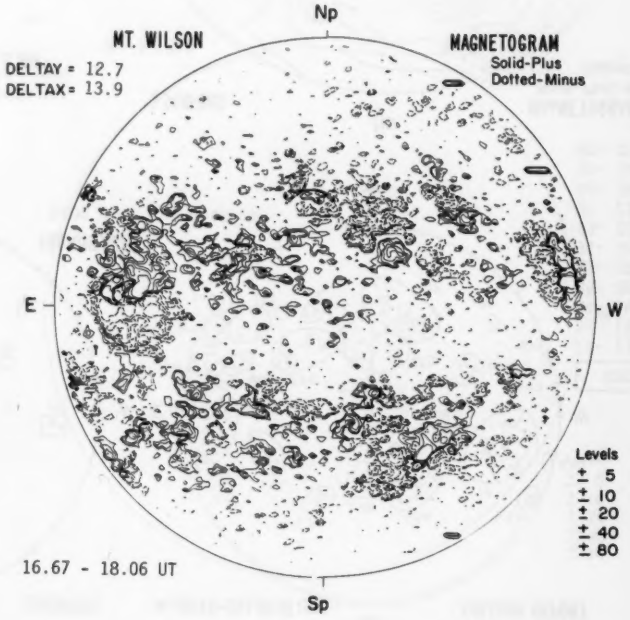
1520 UT

KITT PEAK



1402 UT

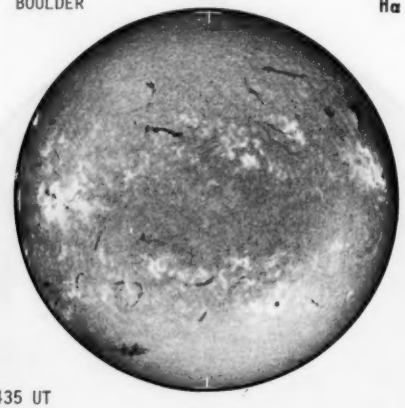
MT. WILSON



16.67 - 18.06 UT

18

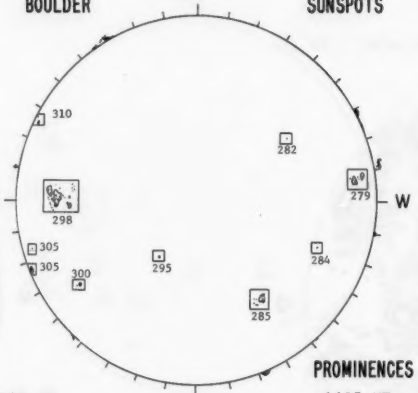
BOULDER Np Hα



E W

1435 UT Sp

BOULDER Np SUNSPOTS

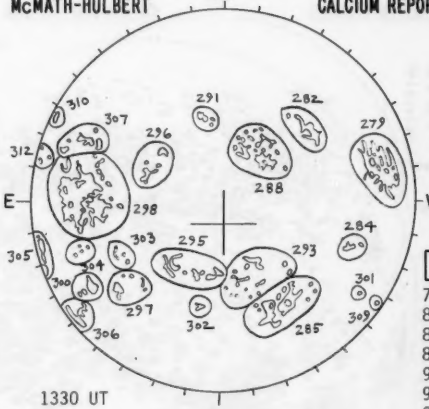


E W

PROMINENCES

1345 UT 1435 UT Sp

McMATH-HULBERT Np CALCIUM REPORT

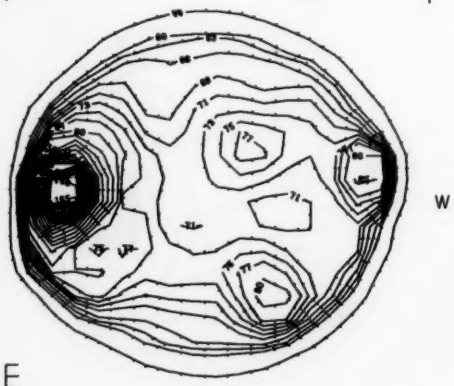


E W

1330 UT Sp

GOOD	S
79- 6500-3.5	
82- 1800-3.0	
84- 0500-3.0	
88- 2000-2.5	
93- 1700-2.5	
95- 2000-3.0	
98- 9000-3.5	
05- 2000-3.5	
10- 0500-3.5	

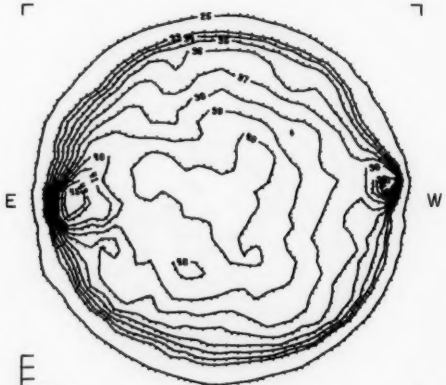
NOSC LA POSTA Np 2.0 CM



E W

1557 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



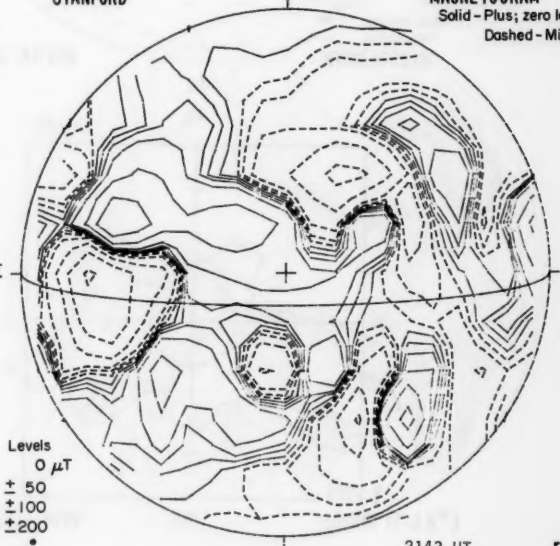
E W

1502 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels 0 μT

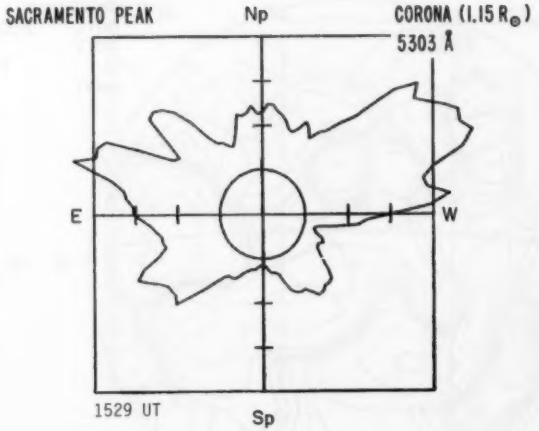
± 50

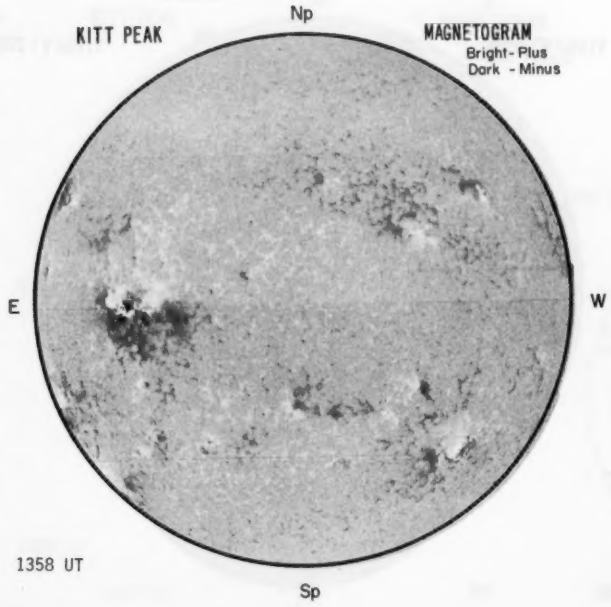
±100

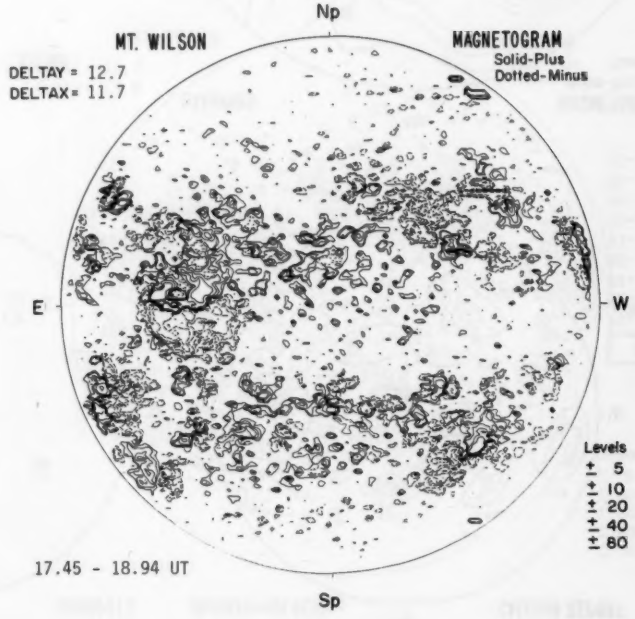
±200

2143 UT Sp

SEPTEMBER 19, 1979 (P = 24.64, B_o = 7.14, L_o = 236.37)







19

Sp

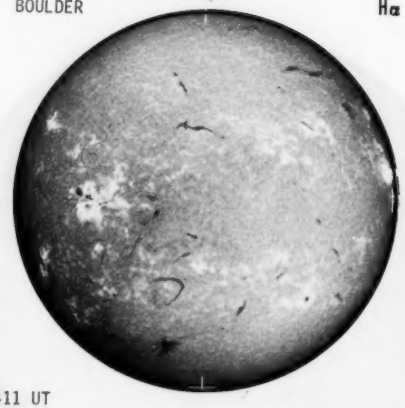
Sp

19

BOULDER

Np

Hα



E

W

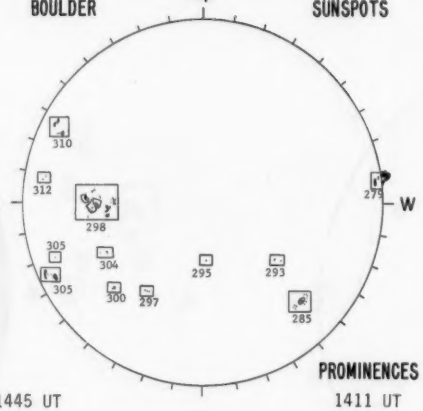
1411 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1411 UT

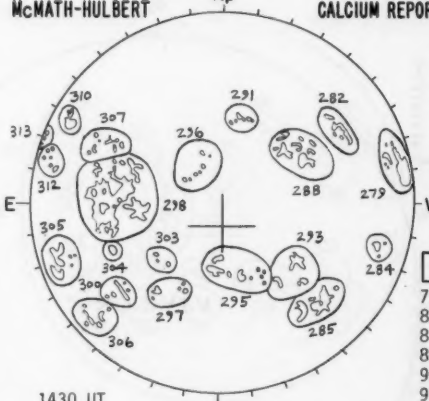
1445 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1430 UT

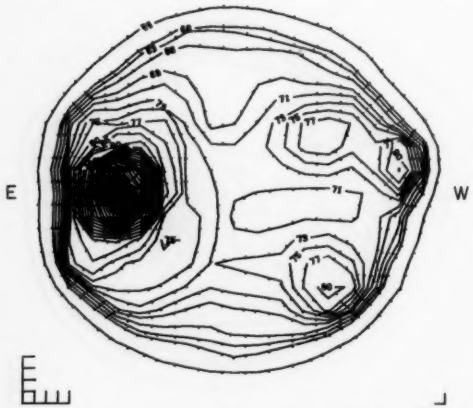
Sp

FAIR	S
79-	5500-3.5
82-	1600-3.0
85-	2800-2.5
88-	2000-2.5
93-	1600-3.0
95-	1900-3.0
98-	9000-4.0
04-	0500-3.0
05-	3000-3.0
10-	1500-3.0

NOSC LA POSTA

Np

2.0 CM



E

W

1612 UT

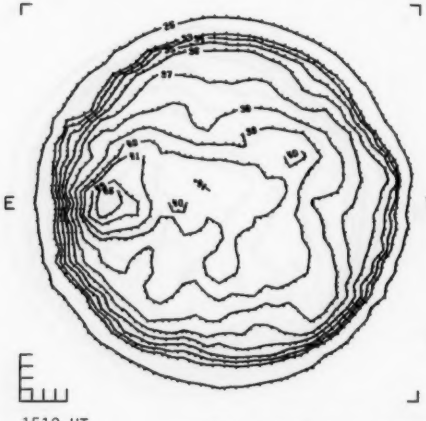
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1519 UT

Sp

Ant. Temp. Unit 100° K

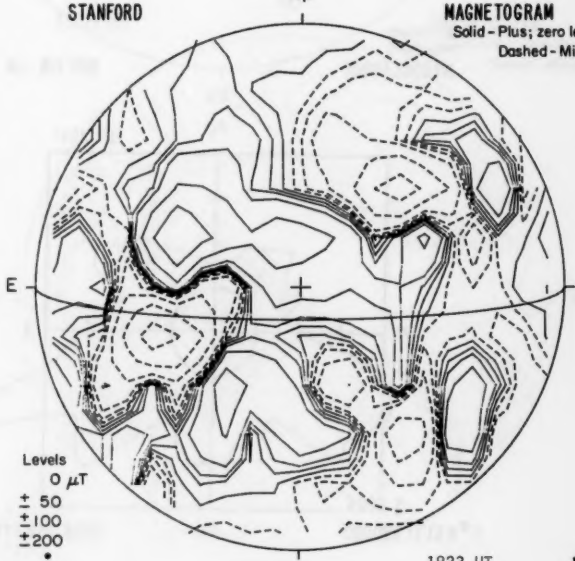
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

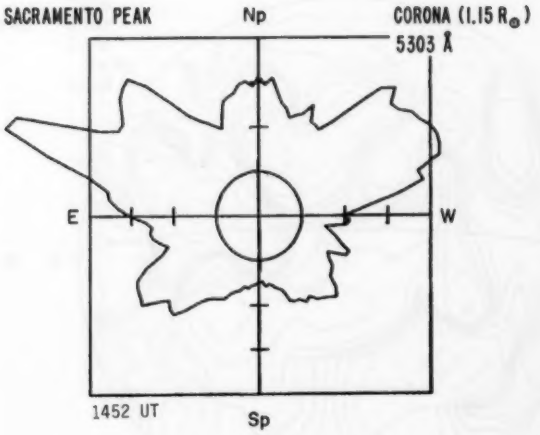
1823 UT

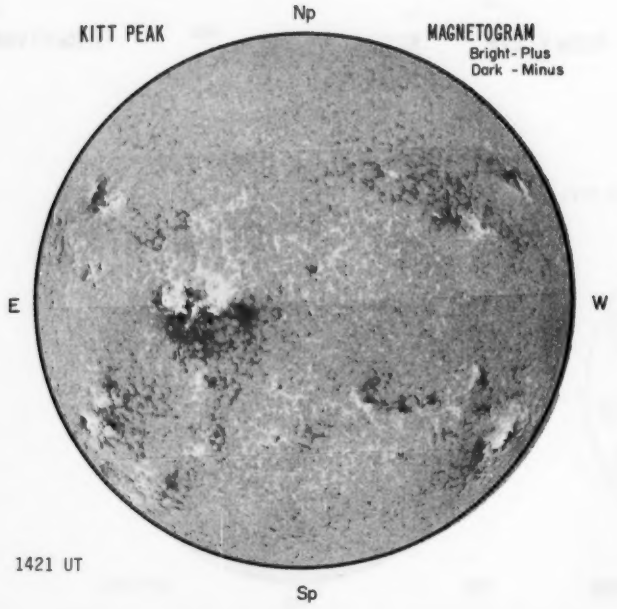
Sp

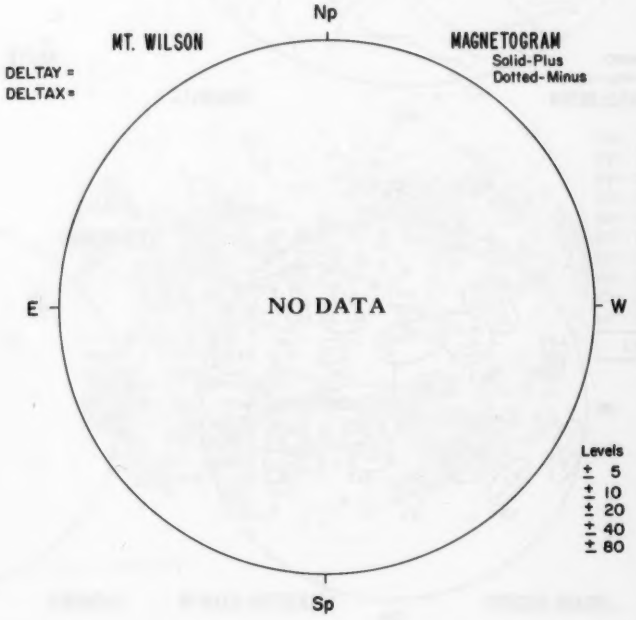
87

Sep 79

SEPTEMBER 20, 1979 (P = 24.79, B_o = 7.12, L_o = 223.17)





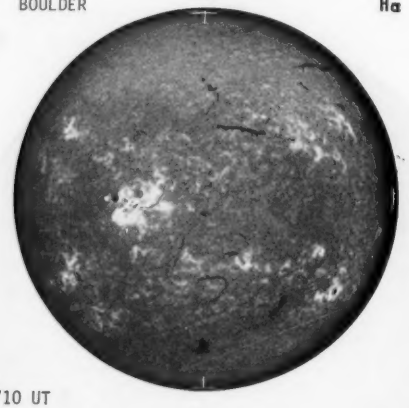


Sp

Sp

20

BOULDER Np Hα

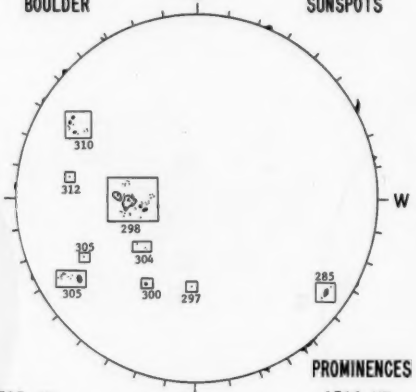


E W

1710 UT

Sp

BOULDER Np SUNSPOTS



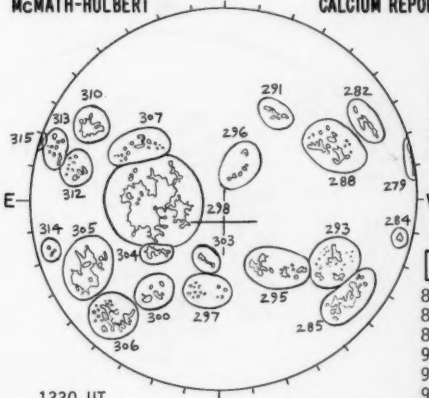
E W

PROMINENCES

1735 UT 1710 UT

Sp

McMATH-HULBERT Np CALCIUM REPORT



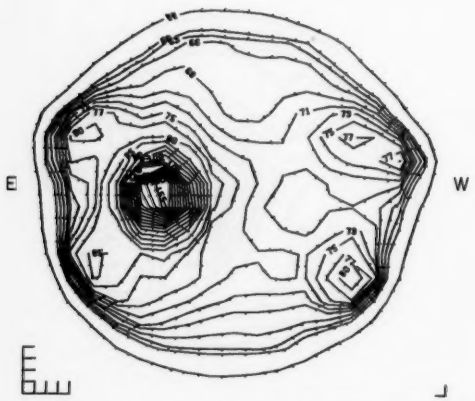
E W

1330 UT

Sp

FAIR	M
82- 1600-2.5	
85- 2300-2.5	
88- 1800-2.5	
93- 1400-3.0	
95- 1500-2.5	
98- 9000-4.0	
05- 3600-2.5	
10- 1700-3.0	

NOSC LA POSTA Np 2.0 CM

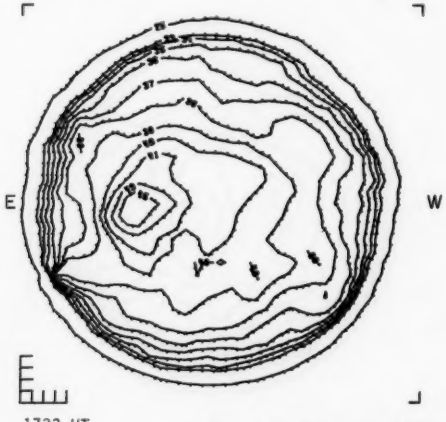


E W

1826 UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



E W

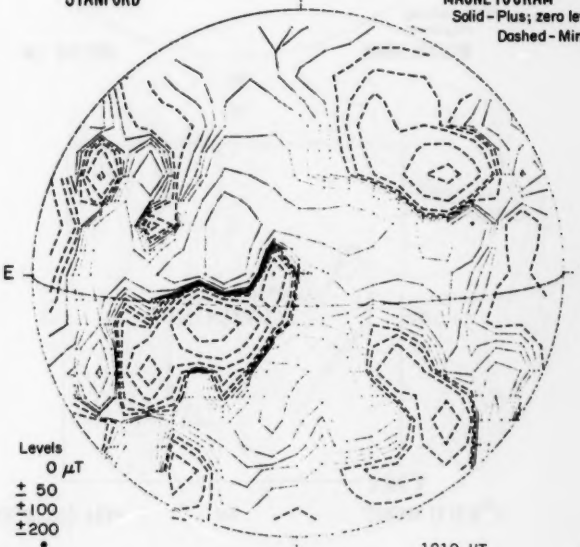
1733 UT

Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

1910 UT

Sp

Sep 79

89

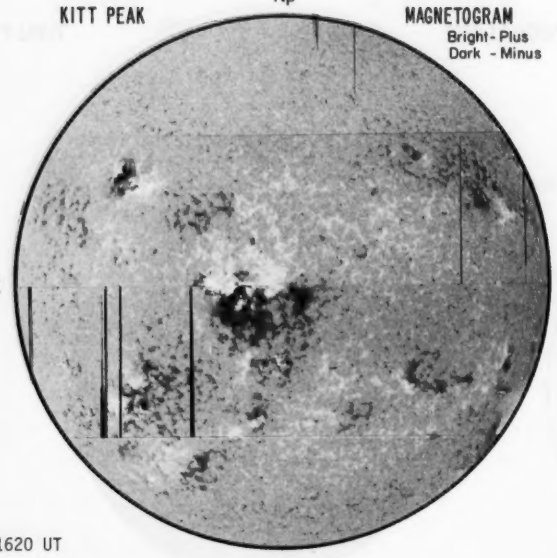
SEPTEMBER 21, 1979 (P = 24.93, B_o = 7.09, L_o = 209.97)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



E W

1620 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

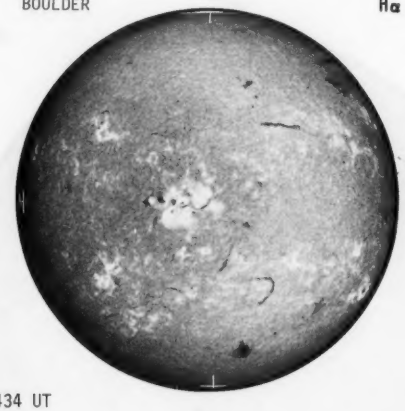
Sp

Sp

Sp

21

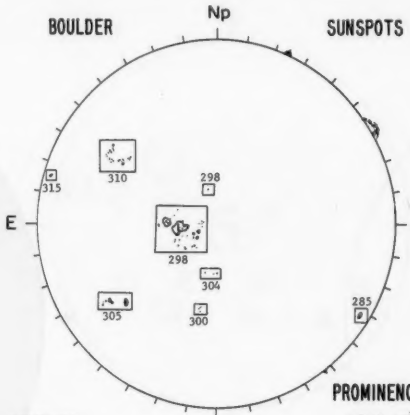
BOULDER Np Hα



E W

1434 UT Sp

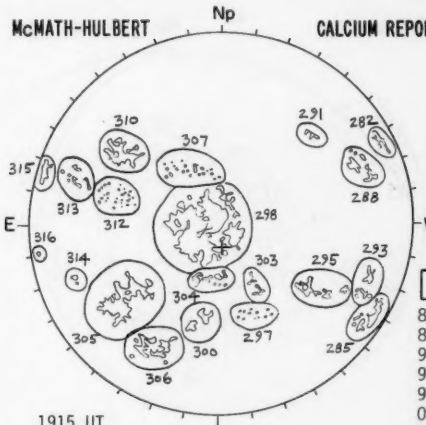
BOULDER Np SUNSPOTS



E W

1415 UT Sp PROMINENCES 1434 UT

McMATH-HULBERT Np CALCIUM REPORT

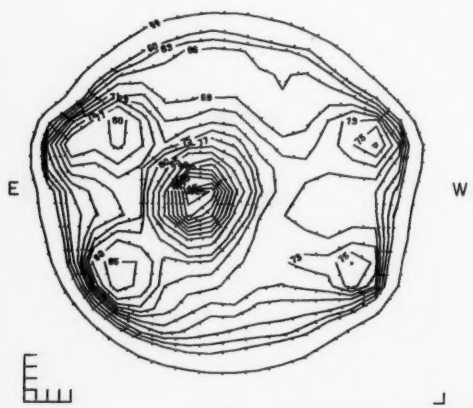


E W

1915 UT Sp

GOOD	M
82-	1500-2.5
85-	2500-2.5
93-	1100-3.0
95-	1200-2.5
98-	10000-4.0
04-	0700-2.5
05-	3800-3.0
10-	2000-3.5
15-	1700-3.5

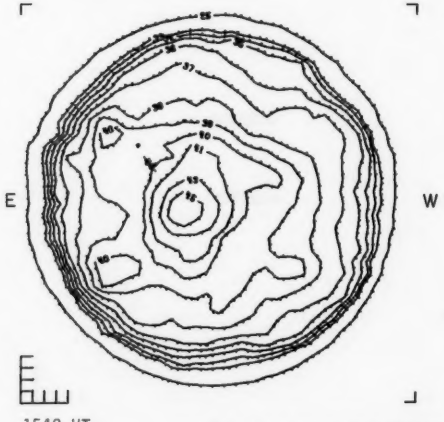
NOSC LA POSTA Np 2.0 CM



E W

1648 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



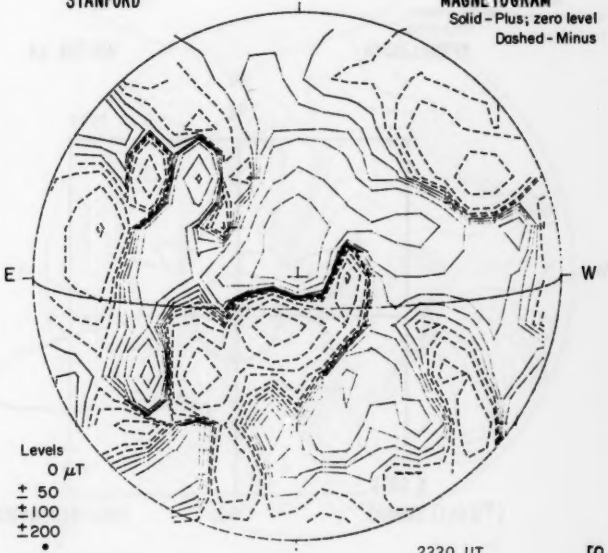
E W

1549 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

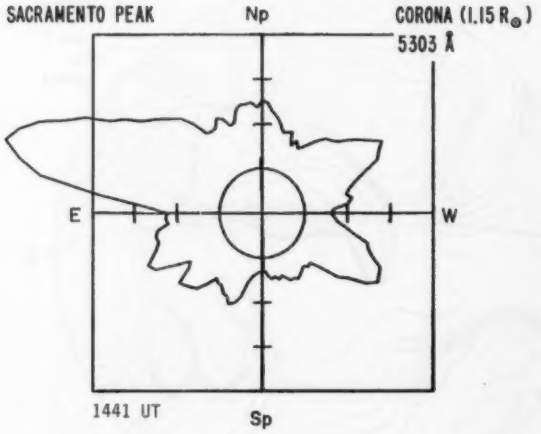
±200

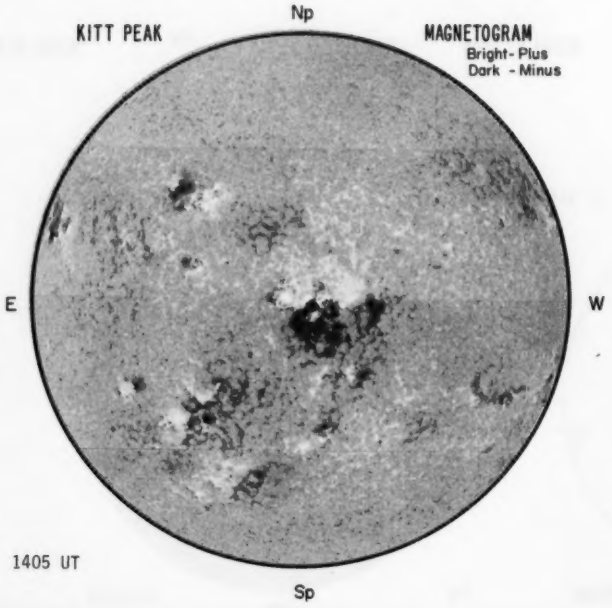
2330 UT Sp

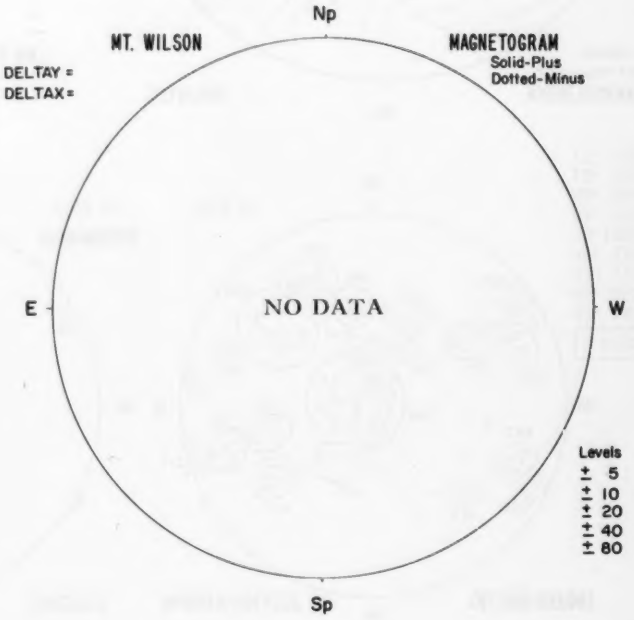
91

Sep 79

SEPTEMBER 22, 1979 (P = 25.06, B_o = 7.07, L_o = 196.77)



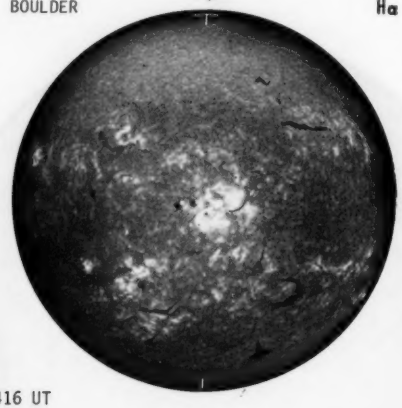




Sp Sp

22

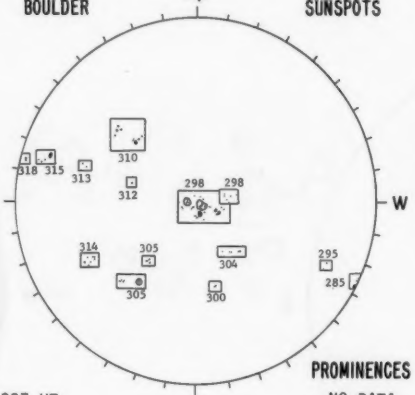
BOULDER Np Hα



E W

1416 UT Sp

BOULDER Np SUNSPOTS



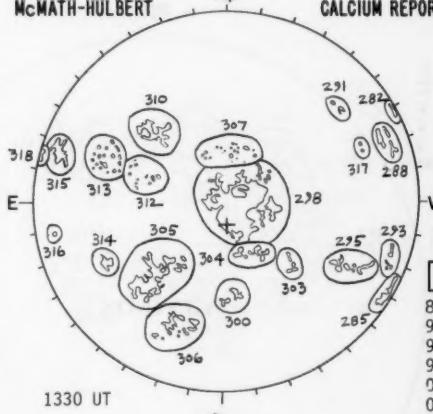
E W

PROMINENCES

NO DATA

1337 UT Sp

McMATH-HULBERT Np CALCIUM REPORT



E W

1330 UT Sp

FAIR	M
85- 1900-2.5	
93- 0500-2.5	
95- 1300-2.5	
98-10000-3.5	
04- 0700-2.5	
05- 3800-2.5	
10- 2000-2.5	
14- 0500-2.5	
15- 1700-2.5	

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

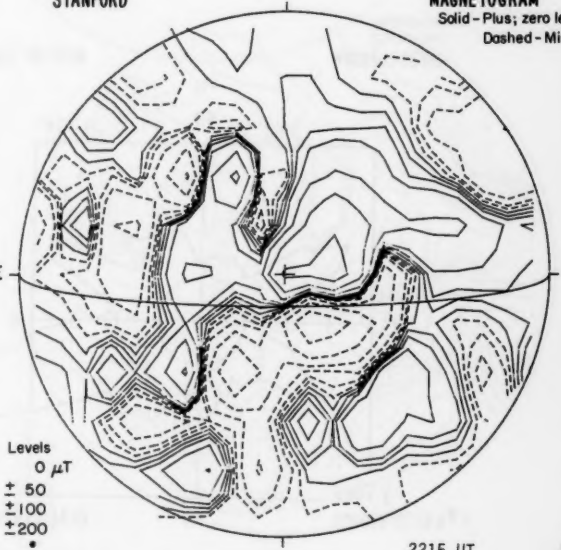
E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

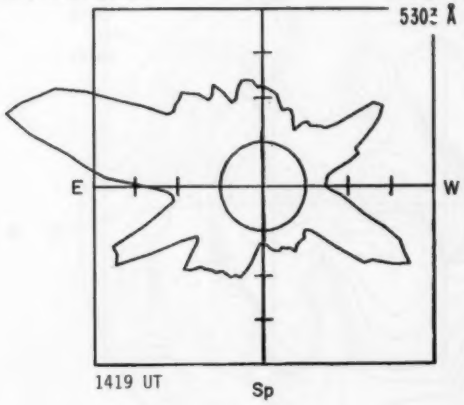
2215 UT Sp

93

Sep 79

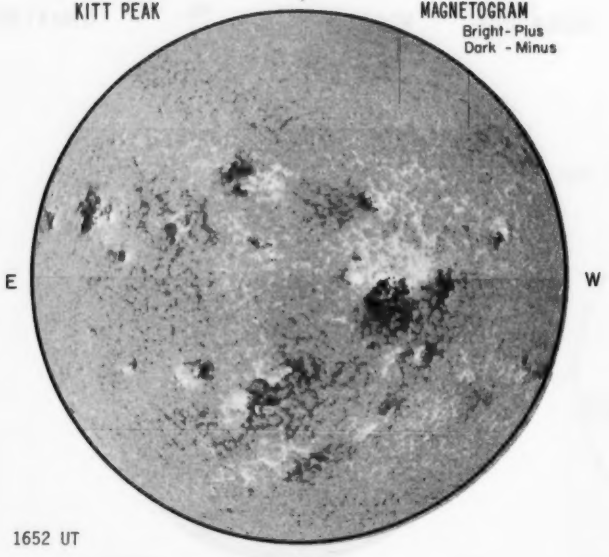
SEPTEMBER 23, 1979 (P = 25.19, B_o = 7.04, L_o = 183.58)

SACRAMENTO PEAK



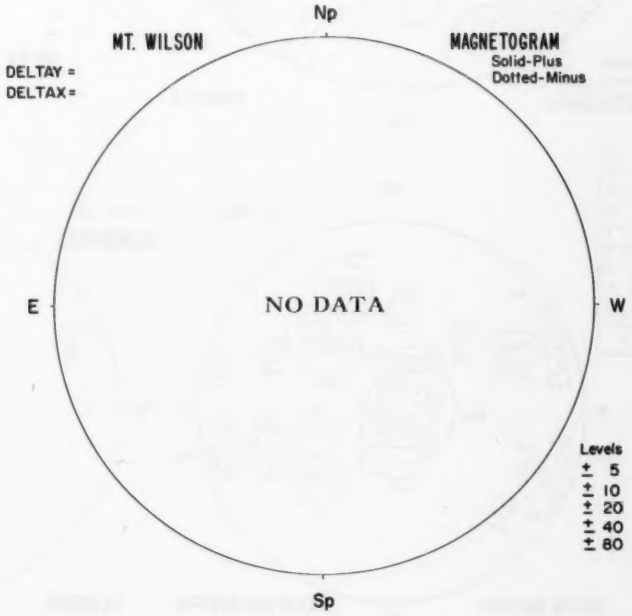
1419 UT

KITT PEAK



1652 UT

MT. WILSON



Sp

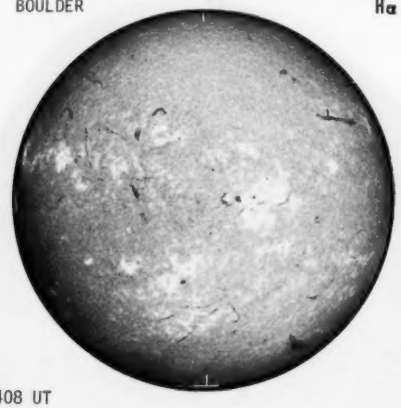
Sp

23

BOULDER

Np

Hα



E

W

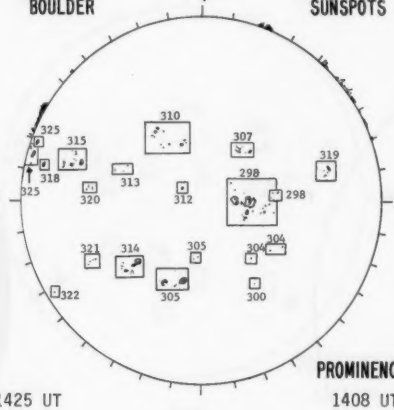
1408 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1425 UT

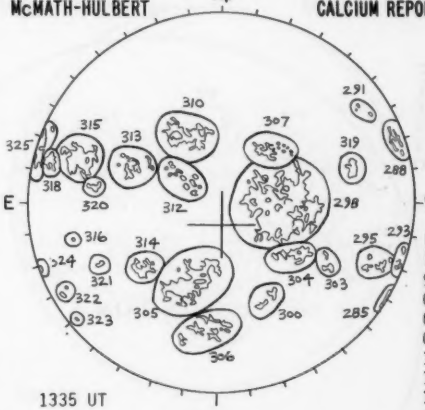
1408 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1335 UT

Sp

GOOD	M
9R-11000-3.5	
04- 0700-2.5	
05- 4000-2.5	
07- 1200-3.5	
10- 2000 3.5	
14- 0800-3.0	
15- 2700 3.0	
19- 0800-3.5	
20- 0400-3.0	
21- 0200-3.0	
25- 2800-3.0	

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

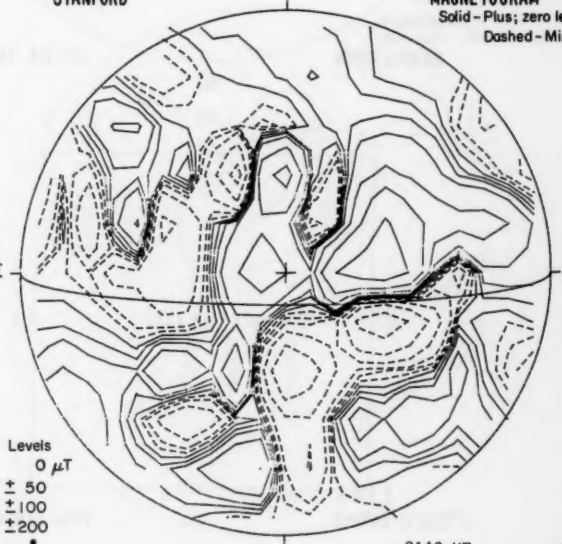
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

2142 UT

Sp

SEPTEMBER 24, 1979 (P = 25.31, B_o = 7.01, L_o = 170.38)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E

NO DATA

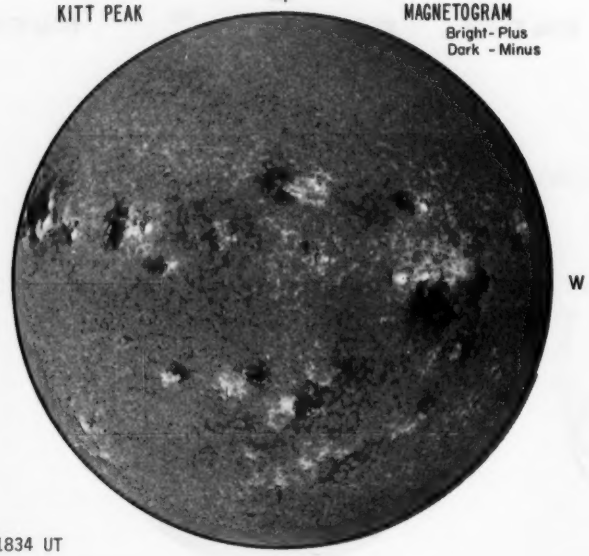
W

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus



E

W

1834 UT

Sp

MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

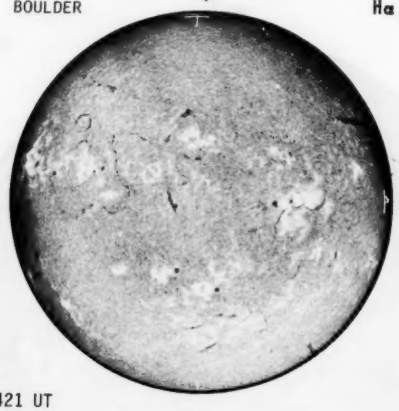
24

Sp

Sp

24

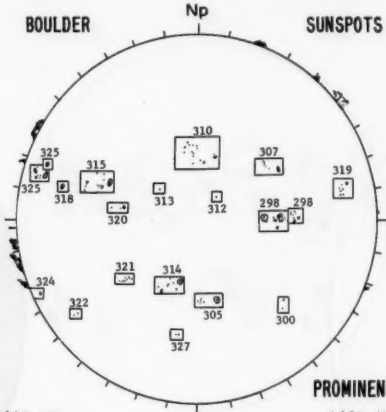
BOULDER Np Hα



E W

1421 UT Sp

BOULDER Np SUNSPOTS

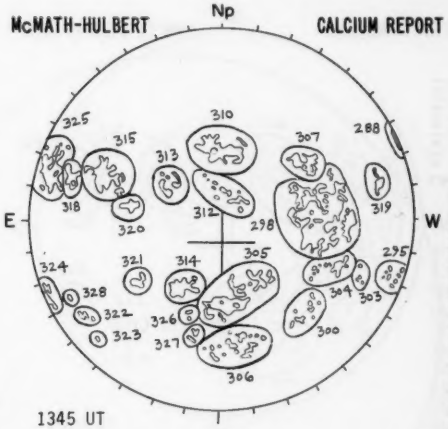


E W

PROMINENCES

1430 UT Sp 1421 UT

McMATH-HULBERT Np CALCIUM REPORT

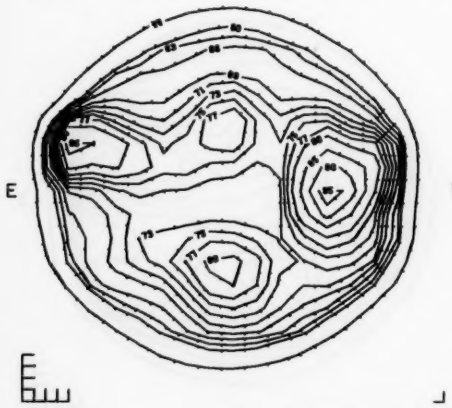


E W

1345 UT Sp

GOOD	S
98-1080	0-3.5
04- 0900	-2.5
05- 3500	-3.0
07- 1400	-2.5
10- 2600	-3.5
14- 1300	-2.5
15- 3000	-3.5
19- 1200	-3.0
20- 0700	-2.5
21- 0700	-3.0
22- 0400	-2.5
24- 1500	-3.0
25- 4000	-3.5
27- 0400	-2.5

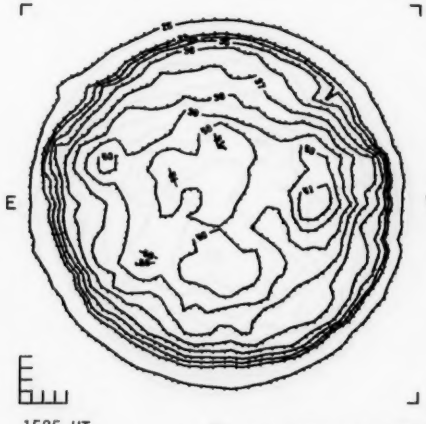
NOSC LA POSTA Np 2.0 CM



E W

1618 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



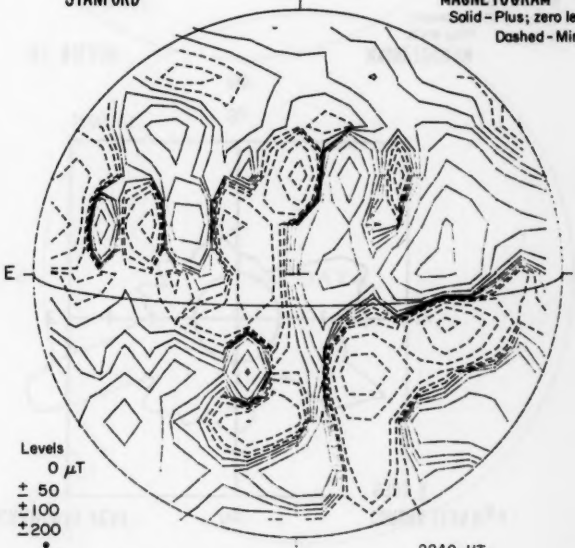
E W

1525 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

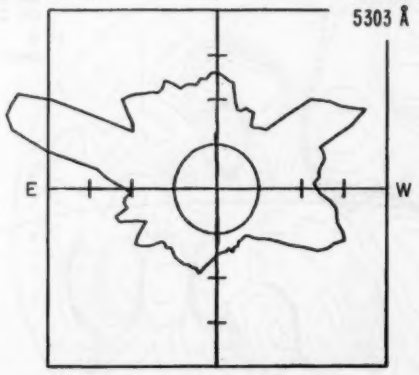
2240 UT Sp

97

Sep 79

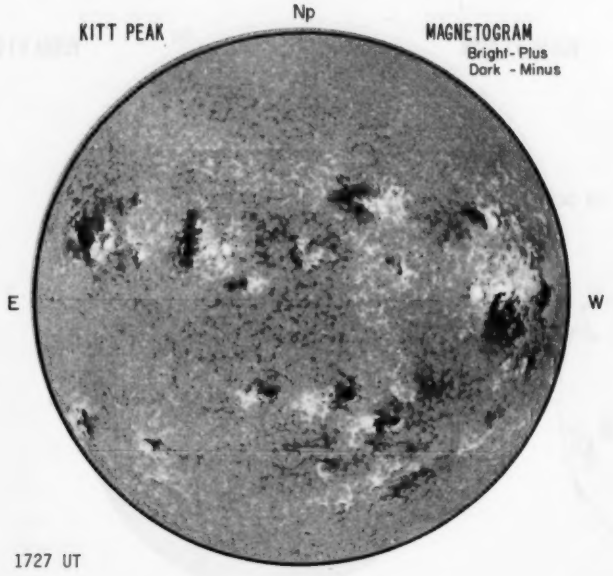
SEPTEMBER 25, 1979 (P=25.43, B_o=6.97, L_o=157.18)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1408 UT Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1727 UT Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY =
DELTAX =

E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

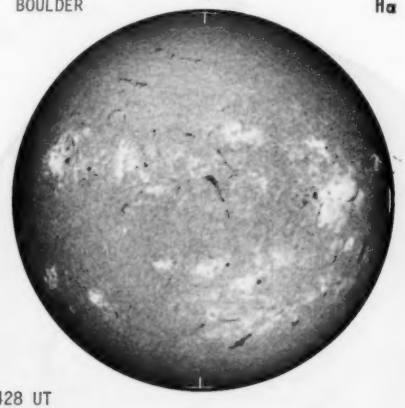
Sp

Sp

Sp

25

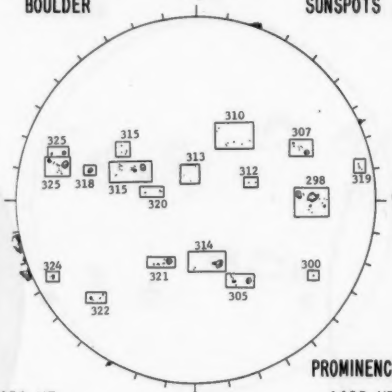
BOULDER Np Hα



E W

1428 UT Sp

BOULDER Np SUNSPOTS

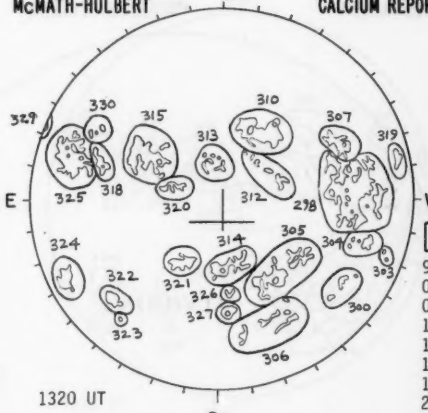


E W

PROMINENCES

1450 UT 1428 UT Sp

McMATH-HULBERT Np CALCIUM REPORT

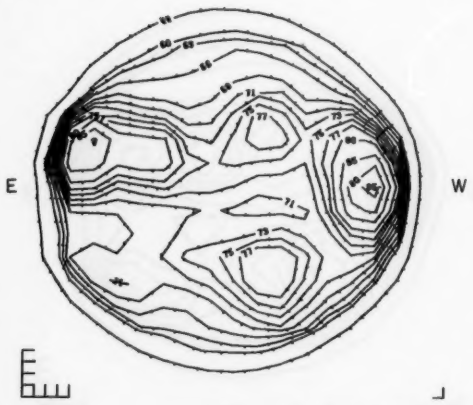


E W

1320 UT Sp

GOOD	M
98-	10600-3.5
05-	3500-3.0
07-	1500-3.5
10-	3000-3.5
14-	1700-2.5
15-	3300-3.0
19-	1200-2.5
20-	0800-2.5
21-	1200-3.0
22-	0900-3.0
24-	2100-2.5
25-	5000-3.5

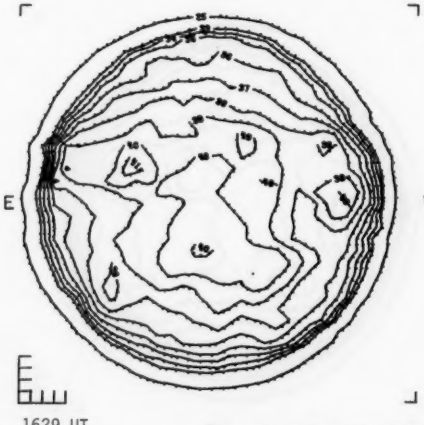
NOSC LA POSTA Np 2.0 CM



E W

1722 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

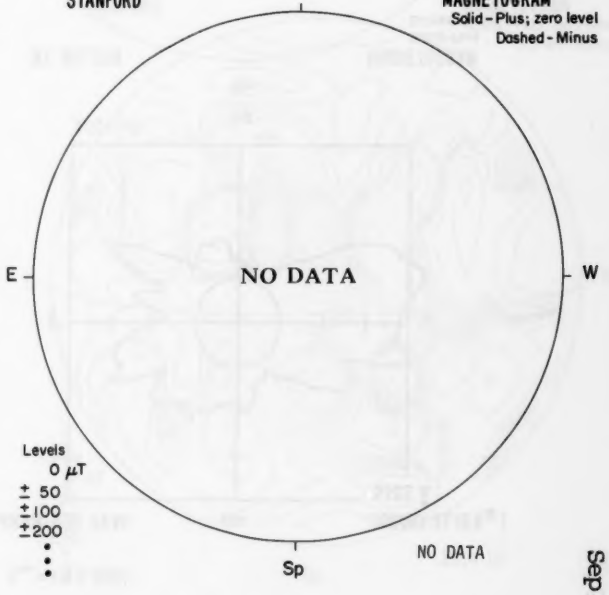


E W

1629 UT Sp Ant. Temp. Unit 100° K

STANFORD Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus



E W

Levels
0 μT
± 50
±100
±200
• • •

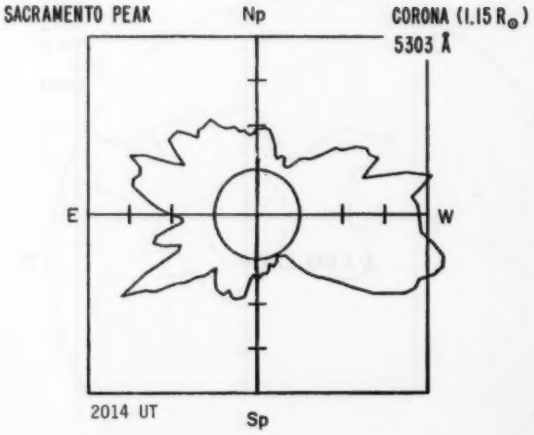
Sp

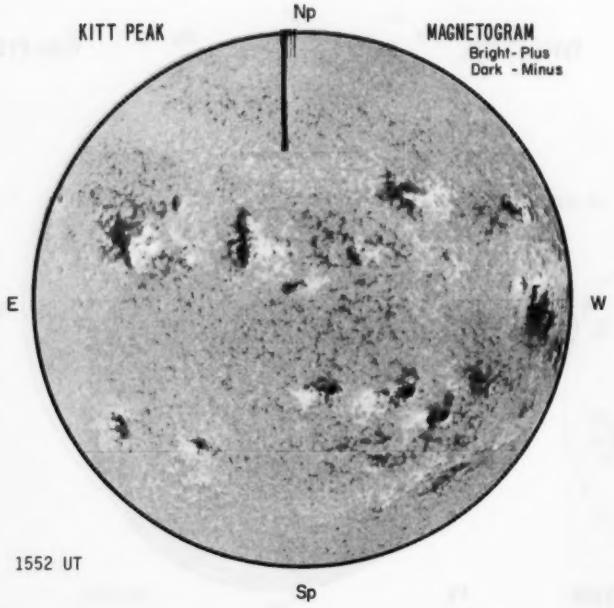
NO DATA

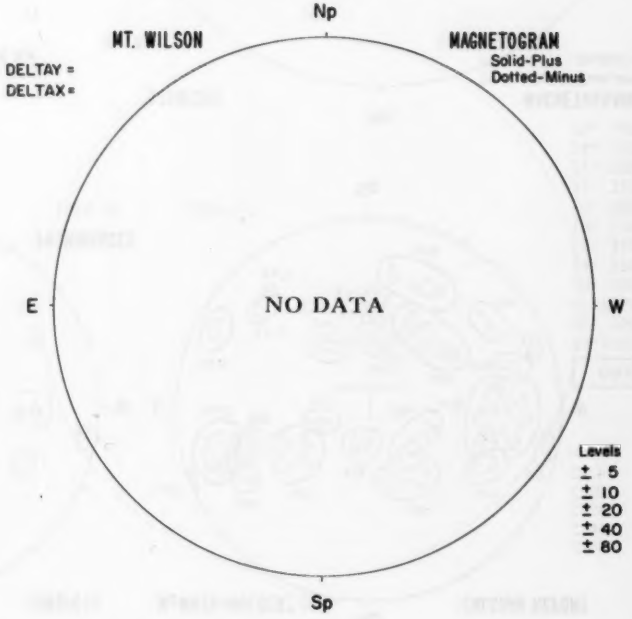
Sep 79

99

SEPTEMBER 26, 1979 (P = 25.53, B_o = 6.94, L_o = 143.98)



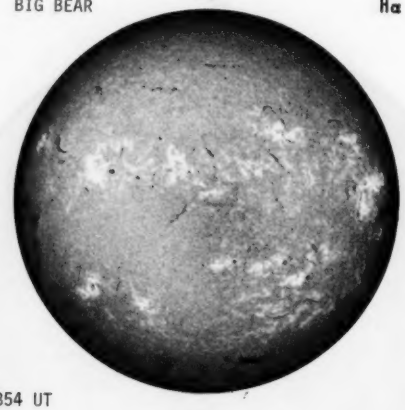




Sp Sp

26

BIG BEAR Np Hα

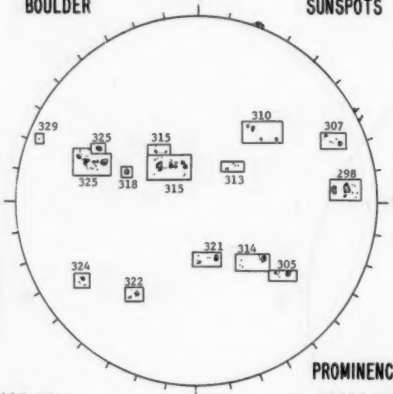


E W

1854 UT

Sp

BOULDER Np SUNSPOTS



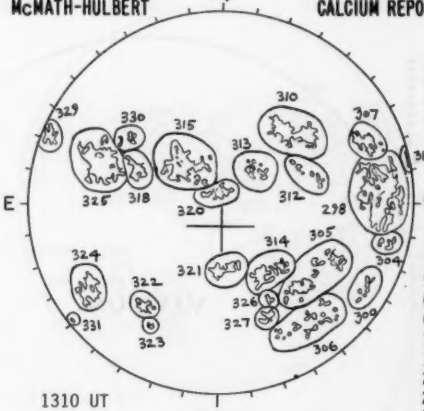
E W

PROMINENCES

1420 UT 1455 UT

Sp

McMATH-HULBERT Np CALCIUM REPORT



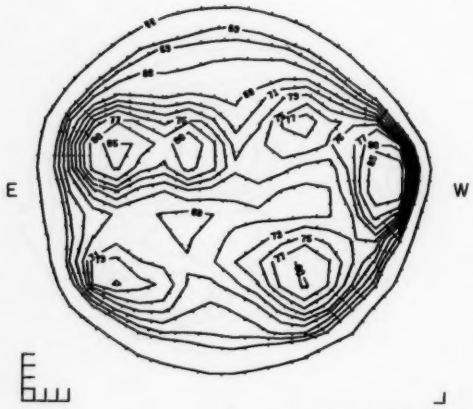
E W

1310 UT

Sp

GOOD	M
98-10500-3.5	
05- 3500-3.0	
07- 1900-2.5	
10- 3000-3.0	
15- 3100-3.5	
21- 1000-3.0	
22- 0700-2.5	
24- 2300-3.5	
25- 4700-3.5	
30- 0500-3.0	

NOSC LA POSTA Np 2.0 CM

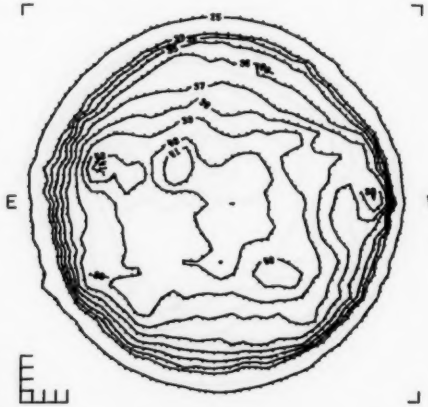


E W

1625 UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



E W

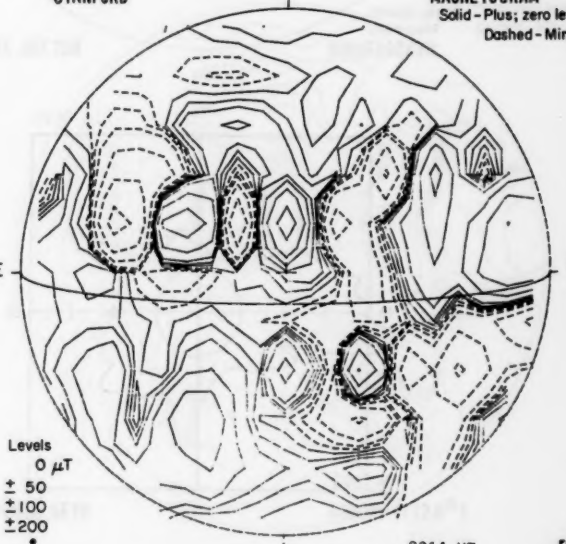
1531 UT

Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels 0 μT

± 50

± 100

± 200

2314 UT

Sp

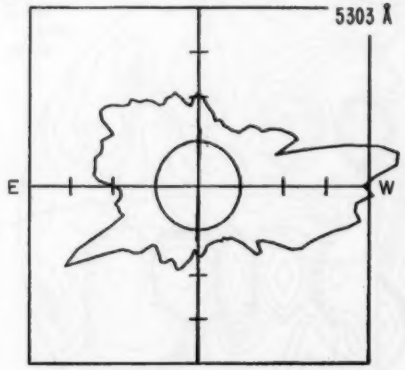
Sep 79 101

SEPTEMBER 27, 1979 (P = 25.63, B_o = 6.90, L_o = 130.78)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å



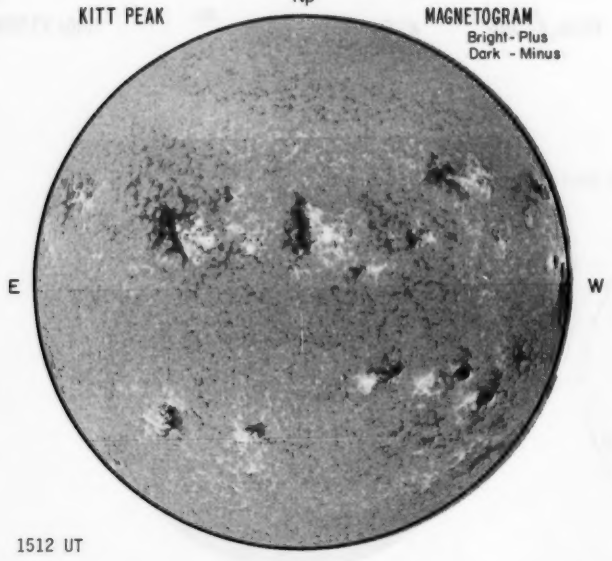
1432 UT

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus



1512 UT

Sp

MT. WILSON

Np

DELTAY =
DELTAX =

MAGNETOGRAM
Solid-Plus
Dotted-Minus

E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

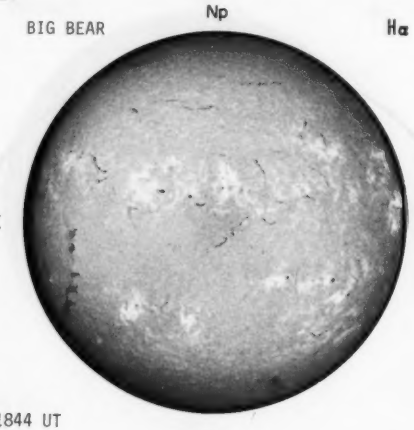
Sp

27

Np

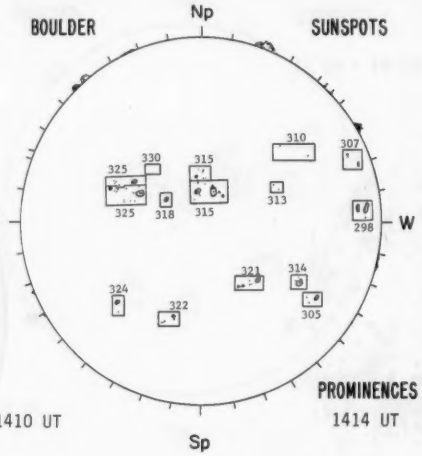
Np

BIG BEAR Hα



1844 UT

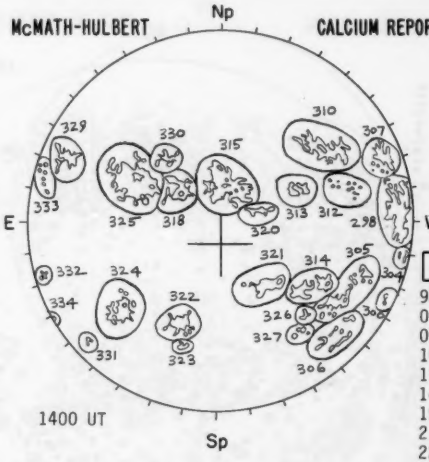
BOULDER SUNSPOTS



PROMINENCES

1410 UT 1414 UT

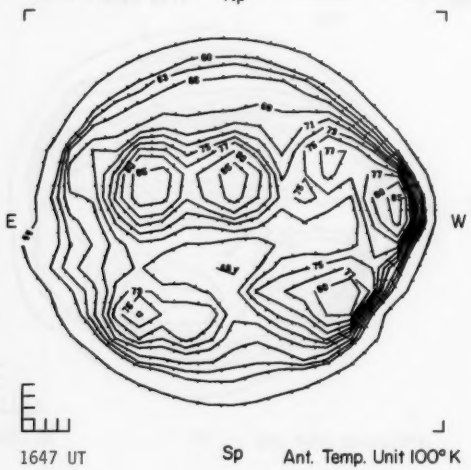
McMATH-HULBERT CALCIUM REPORT



1400 UT

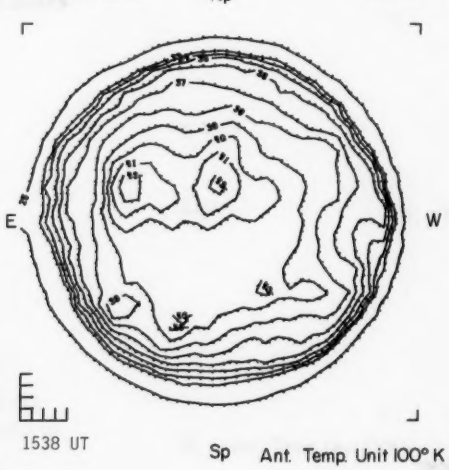
GOOD	M
98-10500-3.0	
05- 2700-3.0	
07- 2300-2.5	
10- 3000-2.5	
13- 0800-2.5	
14- 1700-2.5	
15- 3700-3.5	
21- 1400-3.0	
22- 1200-3.0	
24- 2000-3.0	
25- 5000-3.5	

NOSC LA POSTA 2.0 CM



1647 UT Ant. Temp. Unit 100° K

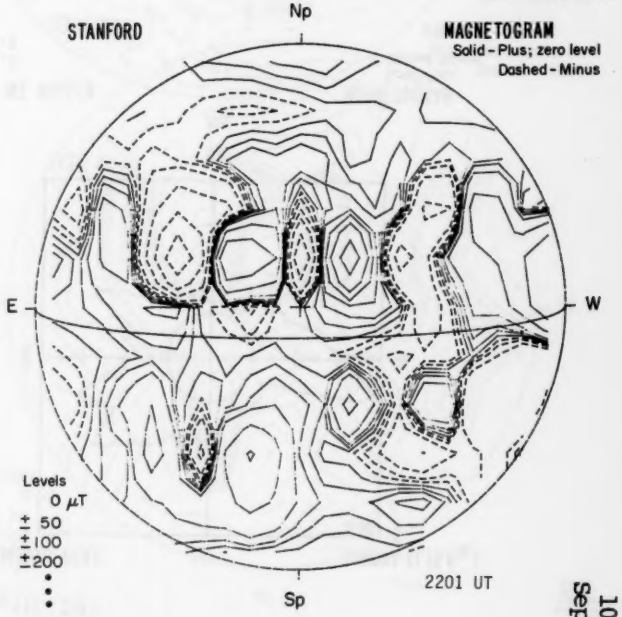
NOSC LA POSTA 8.6 MM



1538 UT Ant. Temp. Unit 100° K

STANFORD MAGNETOGRAM

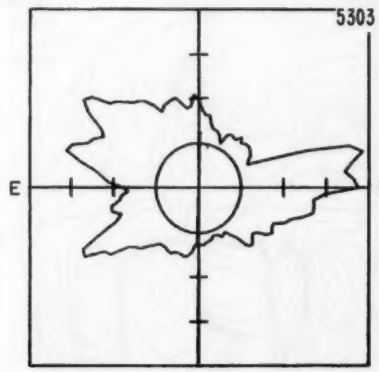
Solid - Plus; zero level
Dashed - Minus



2201 UT

SEPTEMBER 28, 1979 (P = 25.73, B_o = 6.86, L_o = 117.59)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1429 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

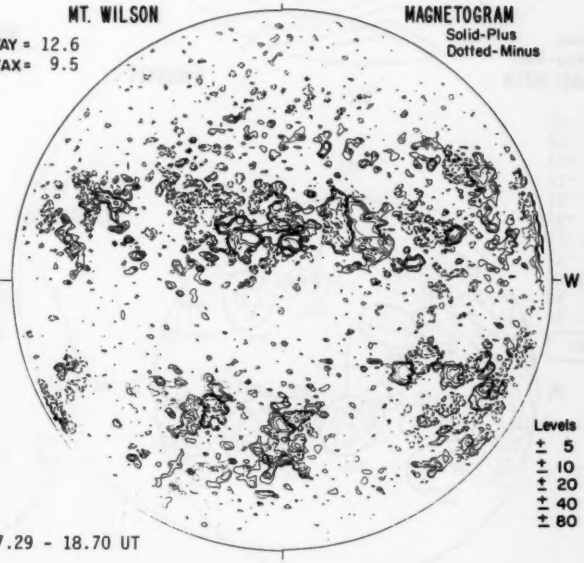
NO DATA

E W

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.6
DELTAX = 9.5



17.29 - 18.70 UT

Sp

28

BOULDER Np H-

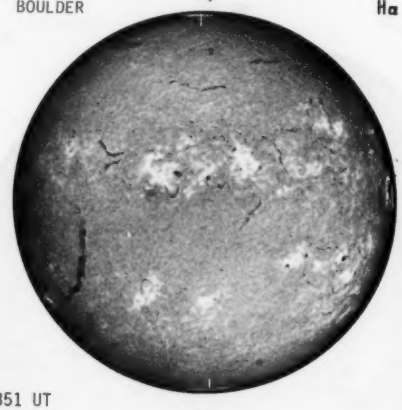
BOULDER Np

SUNSPOTS M-MATH-HULBERT Np

CALCIUM REPORT

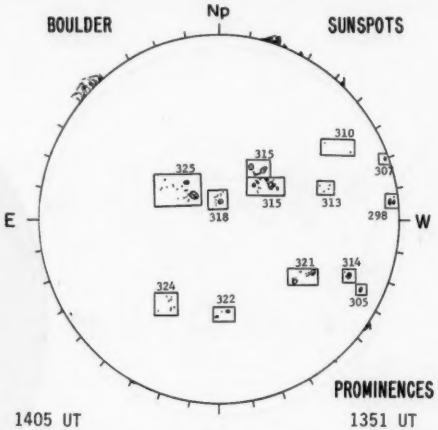
28

BOULDER Np Hα



1351 UT

BOULDER Np SUNSPOTS

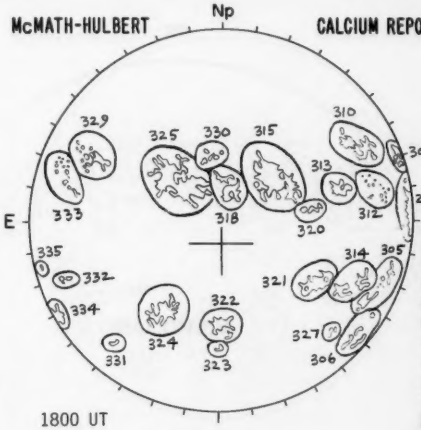


1405 UT

PROMINENCES

1351 UT

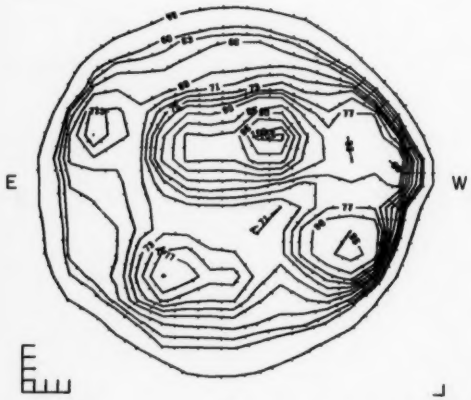
McMATH-HULBERT Np CALCIUM REPORT



FAIR	M
98- 3600-2.5	
05- 2500-3.0	
07- 2100-3.0	
10- 2700-3.0	
13- 0900-2.5	
14- 1700-3.0	
15- 4000-3.5	
21- 1800-2.5	
22- 1100-2.5	
24- 1700-2.5	
25- 4600-3.0	
34- 2500-3.0	

1800 UT

NOSC LA POSTA Np 2.0 CM



1653 UT

Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

CLOUDY

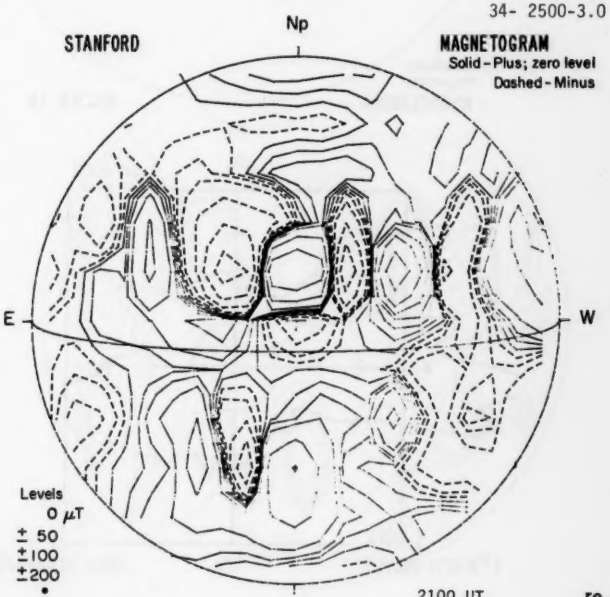
1559 UT

Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

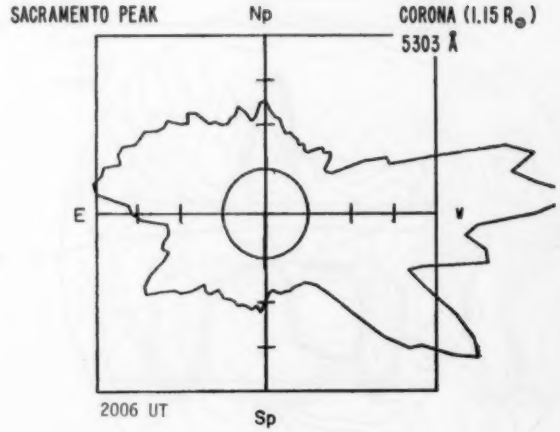
Dashed - Minus

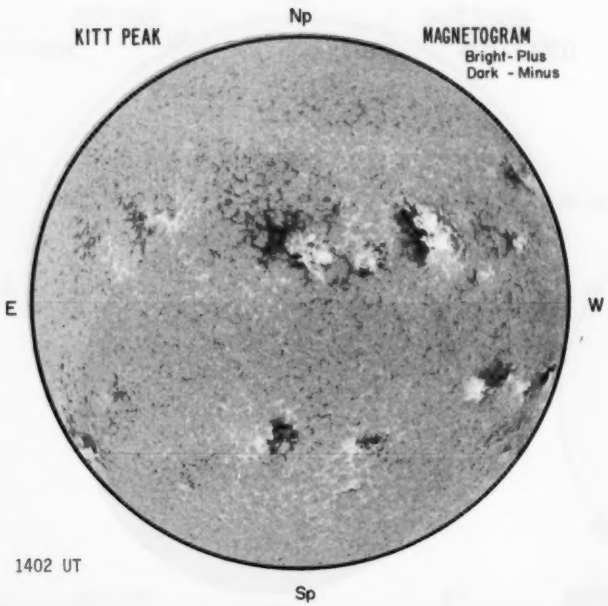


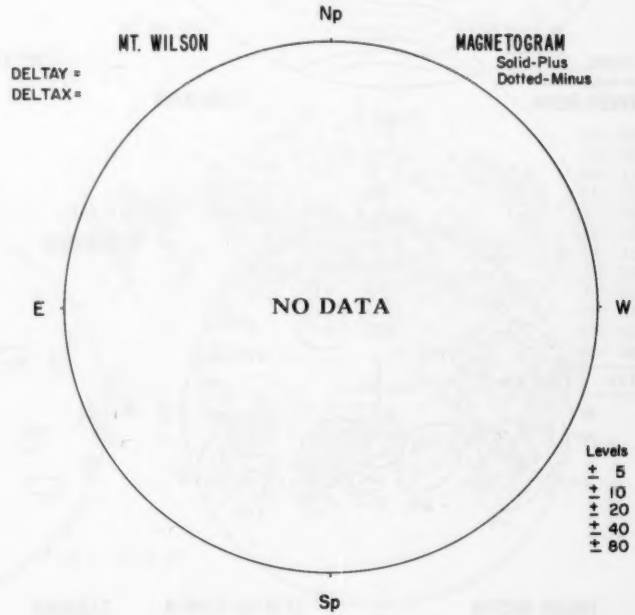
2100 UT

105
Sep 79

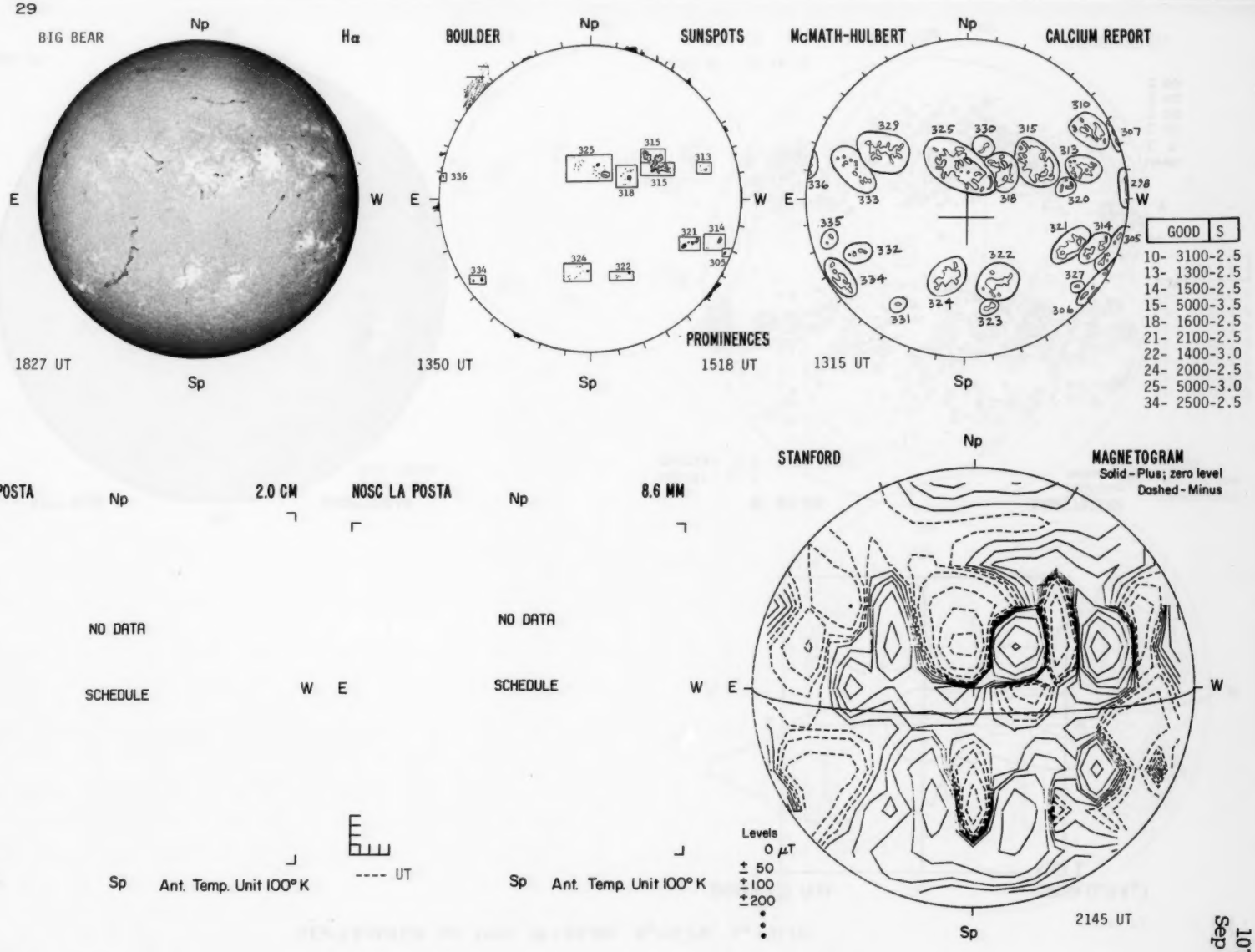
SEPTEMBER 29, 1979 ($P = 25.82$, $B_o = 6.82$, $L_o = 104.39$)



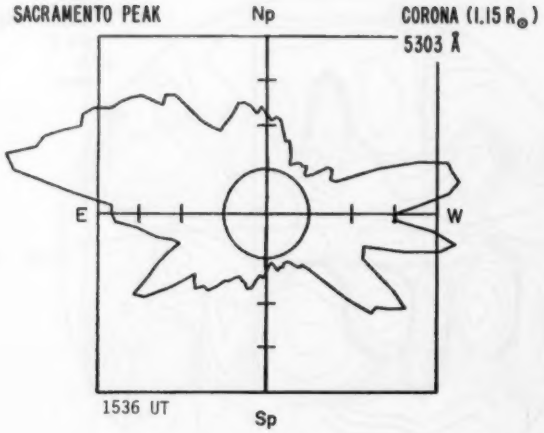


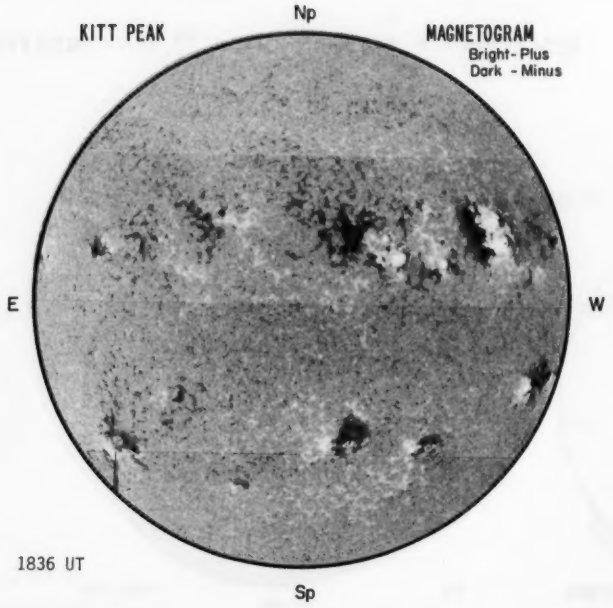


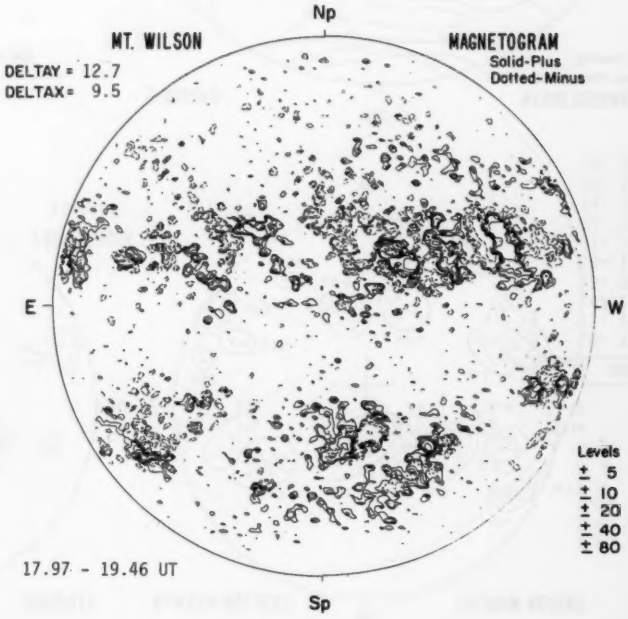
29


BIG BEAR
Np
Hα
E
W
Sp
1827 UT
BOULDER
SUNSPOTS
PROMINENCES
1350 UT
1518 UT
McMATH-HULBERT
CALCIUM REPORT
1315 UT
GOOD | S
10- 3100-2.5
13- 1300-2.5
14- 1500-2.5
15- 5000-3.5
18- 1600-2.5
21- 2100-2.5
22- 1400-3.0
24- 2000-2.5
25- 5000-3.0
34- 2500-2.5
NOSC LA POSTA
2.0 CM
NO DATA
SCHEDULE
---- UT
Ant. Temp. Unit 100° K
NOSC LA POSTA
8.6 MM
NO DATA
SCHEDULE
---- UT
Ant. Temp. Unit 100° K
STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Levels
0 μT
± 50
±100
±200
2145 UT

SEPTEMBER 30, 1979 (P = 25.90, B_o = 6.78, L_o = 91.19)







30

Sp

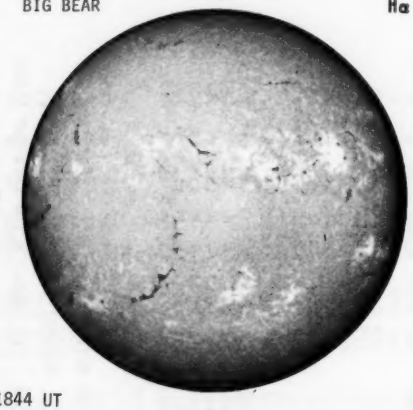
Sp

30

BIG BEAR

Np

Hα



E

W

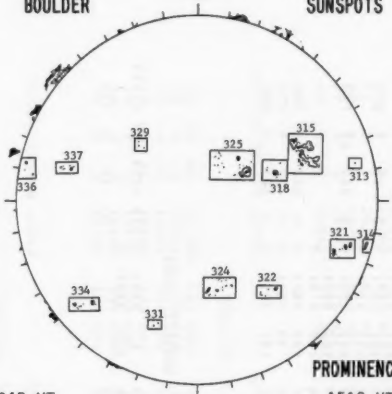
1844 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1345 UT

Sp

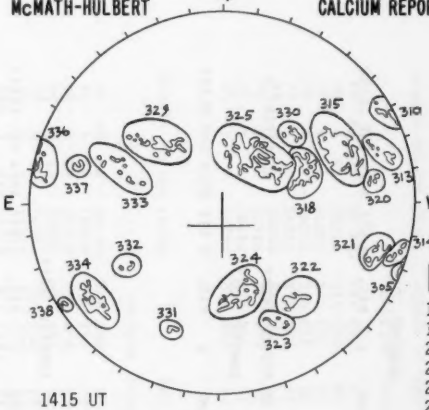
PROMINENCES

1519 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1415 UT

Sp

GOOD	S
10- 1700-2.5	
15- 5000-3.5	
21- 2000-3.0	
22- 1200-3.0	
24- 2200-3.0	
25- 4500-3.0	
34- 2500-3.0	

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

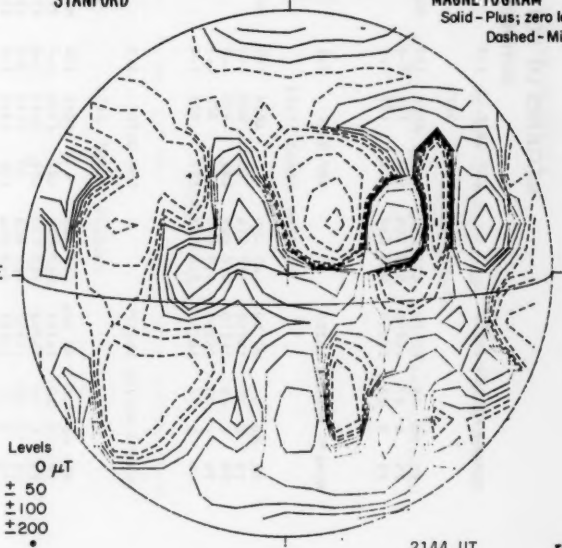
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

2144 UT

Sp

109

Sep 79

REGIONS OF SOLAR ACTIVITY

SEPTEMBER 1979

MCMATH REGION 16255 CMP DATE 1.3

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	27	16255	N07 E64	109	100	2.0									
79	8	28	16255	N08 E48	111	100	1.0									

MCMATH REGION 16256 CMP DATE 2.0 RETURN OF REGION 16187 ROTATION 5

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	27	16256	S20 E74	99	500	1.5									
79	8	28	16256	S18 E58	101	200	1.5									
79	8	29	16256	S19 E43	101	300	1.5									
79	8	30	16256	S19 E32	102	200	1.5									

MCMATH REGION 16252 CMP DATE 2.2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	26	16252	N17 E84	103	2400	2.5	20851	N18 E80	107	B	2	B	210	1	HHX
79	8	27	16252	N17 E73	100	5000	3.0	20851	N18 E72	101	(BP)	4	B	390	2	CHO
79	8	28	16252	N19 E60	99	5000	3.5	20851	N18 E58	101	(BP)	5				
79	8	29	16252	N19 E44	100	5300	3.5	20851	N18 E45	101	(BP)	5	B	20	3	BXO
79	8	30	16252	N20 E34	100	5000	3.5	20851	N18 E30	103	(BP)	5				
79	8	31	16252	N18 E21	101	5500	3.0	20851	N18 E19	101	(BP)	5	B	360	18	FHO
79	9	1	16252	N19 E07	98	5500	3.0	20851	N18 E03	103	(BP)	5				
79	9		16252					20862	N13 E04	102	(B)	3				
79	9	2	16252	N19 W07	98	5500	3.0	20851	N18 W08	100	(BP)	5	M	250	6	CHO
79	9		16252					20862	N13 W07	99	(BY)	2	M	20	4	CRO
79	9	3	16252	N19 W20	100	5800	3.0	20851	N18 W21	100	(BY)	5	M	270	4	EHO

MCMATH REGION 16268 CMP DATE 2.2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	1	16268	S16 E07	98	200	2.0	20863	S15 E06	100	(AP)	2				
79	9	2	16268	S15 W07	98	200	2.0		S16 W12				M	10	1	AXX
79	9	3	16268	S14 W20	100	500	2.0									
79	9	4	16268	S15 W32	98	300	1.5									
79	9	5	16268	S16 W48	99	100	1.0									

MCMATH REGION 16259 CMP DATE 2.3

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	31	16259	S23 E21	101	200	2.0									
79	9	1	16259	S24 E08	97	200	2.0									
79	9	2	16259	S24 W06	97	100	1.0									

MCMATH REGION 16271 CMP DATE 2.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	3	16271	S20 W12	92	500	2.5	20870	S20 W12	91	(BF)	4	M	60	7	CSO
79	9	4	16271	S20 W25	91	1000	3.0	20870	S20 W27	93	(B)	4	M	100	10	DSO
79	9	5	16271	S20 W40	91	1400	2.5	20870	S20 W40	93	(B)	4	P	110	11	CSO
79	9	6	16271	S20 W51	91	1200	2.0	20870	S20 W53	93	(BP)	4	P	110	4	CSO
79	9	7	16271	S20 W64	90	1200	1.5	20870	S21 W68	94	(AP)	3	P	80	1	HSX
79	9	8	16271	S20 W77	90	800	1.5									

MCMATH REGION 16261 CMP DATE 3.4 RETURN OF REGION 16192 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	28	16261	S15 E82	77	1000	2.5									
79	8	29	16261	S14 E62	82	800	3.0									
79	8	30	16261	S14 E50	84	600	2.5									

CONTD

REGIONS OF SOLAR ACTIVITY

SEPTEMBER 1979

MCMATH REGION 16261 (CONT) CMP DATE 3.4 RETURN OF REGION 16192 ROTATION 2

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	31	16261	S14 E38	84	400	2.5									
79	9	1	16261	S15 E24	81	400	2.0									
79	9	2	16261	S15 E10	81	400	2.0									
79	9	3	16261	S15 W02	82	500	2.0									
79	9	4	16261	S15 W15	81	400	1.5									
79	9	5	16261	S15 W30	81	300	1.5									
79	9	6	16261	S15 W41	81	300	1.0									
79	9	7	16261	S15 W54	80	300	1.0									

MCMATH REGION 16260 CMP DATE 3.7

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	28	16260	N12 E80	79	1200	2.0									
79	8	29	16260	N13 E66	78	1400	2.5									
79	8	30	16260	N13 E56	78	1500	2.5									
79	8	31	16260	N13 E44	78	1800	2.5									
79	9	1	16260	N12 E28	77	1800	2.5									
79	9	2	16260	N12 E15	76	1500	2.5		N12 E12				M	10	1	AXX
79	9	3	16260	N13 E03	77	1500	2.5									
79	9	4	16260	N13 W10	76	1500	2.5	20871	N13 W15	81	(AP)	2	M	40	6	DRO
79	9	5	16260	N13 W26	77	1700	2.5									
79	9	6	16260	N13 W37	77	1600	2.5									
79	9	7	16260	N13 W51	77	1600	2.5									
79	9	8	16260	N14 W64	77	1600	2.5									
79	9	9	16260	N14 W78	77	1000	1.0									

MCMATH REGION 16265 CMP DATE 4.0

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	29	16265	S30 E70	74	500	1.0									
79	8	30	16265	S30 E58	76	200	2.5									
79	8	31	16265	S30 E45	77	200	2.5									
79	9	1	16265	S30 E32	73	200	2.5	20864	S30 E30	76	(AP)	1				
79	9	2	16265	S30 E19	72	200	2.0									
79	9	3	16265	S30 E06	74	200	2.5									

MCMATH REGION 16263 CMP DATE 4.9

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	29	16263	N22 E82	62	1100	3.0	20857	N22 E85	61	B	2				
79	8	30	16263	N22 E71	63	1500	3.0	20857	N20 E70	63	(B)	3	B	10	4	BXO
79	8	31	16263	N22 E59	63	2000	3.0	20857	N20 E54	66	(B)	4	B	170	12	ESI
79	9	1	16263	N22 E45	60	2000	3.5	20857	N19 E43	63	(BP)	4	M	180	17	EAO
79	9	2	16263	N22 E31	60	2000	3.5	20857	N19 E30	62	(BP)	4	M	250	15	DAO
79	9	3	16263	N22 E18	62	2300	3.0	20857	N21 E16	63	(B)	5	M	310	22	DKI
79	9	4	16263	N22 E05	61	2800	3.0	20857	N21 E03	63	(B)	4	M	280	18	EKO
79	9	5	16263	N22 W11	62	2500	3.0	20857	N21 W10	63	(BY)	5	P	460	18	EHO
79	9	6	16263	N22 W22	62	2700	3.0	20857	N21 W23	63	(B)	5	P	360	11	EHO
79	9	7	16263	N22 W35	61	3300	3.0	20857	N21 W36	62	(B)	5	P	220	12	DSO
79	9	8	16263	N22 W48	61	3500	3.0	20857	N21 W49	62	(B)	5	M	320	3	DSO
79	9	9	16263	N23 W62	61	3300	2.5	20857	N21 W61	61	(BP)	4	M	190	3	CSO
79	9	10	16263	N23 W75	63	2700	2.5	20857	N21 W77	65	(BP)	3	M	120	1	HSX
79	9	11	16263	N23 W87	62	2200	1.5									

MCMATH REGION 16264 CMP DATE 4.9

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	29	16264	N14 E82	62	400	2.0									
79	8	30	16264	N13 E72	62	1300	2.0		N13 E72				B	10	3	BXO
79	8	31	16264	N13 E60	62	1300	3.5									
79	9	1	16264	N13 E46	59	1800	3.0	20858	N12 E43	63	(B)	4				
79	9	2	16264	N13 E32	59	1800	3.0	20858	N11 E26	66	(BP)	3	M	100	11	DSO
79	9	3	16264	N13 E19	61	1700	2.5	20858	N12 E13	66	(BY)	3	M	60	12	ERO
79	9	4	16264	N13 E05	61	1800	2.0	20858	N12 W01	67	(BP)	4				
79	9	5	16264	N13 W11	62	1400	4.0	20858	N13 W12	65	(BY)	3	P	20	11	BXO
79	9	6	16264	N13 W22	62	1400	3.0	20858	N13 W25	65	(B)	2	P	20	9	BXO
79	9	7	16264	N13 W36	62	1300	3.0									

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MCMATH REGION 16264 (CONT) CMP DATE 4.9

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	8	16264	N13 W58	53	1300	3.0									
79	9	9	16264	N13 W64	63	1200	2.0									
79	9	10	16264	N13 W78	66	1500	2.0									

MCMATH REGION 16269 CMP DATE 6.1

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	1	16269	N13 E61	44	300	3.0	20866	N14 E59	47	(B)	2				
79	9	2	16269	N13 E48	43	500	3.0	20866	N13 E45	47	(B)	3	H	50	11	CRO
79	9	3	16269	N14 E34	46	900	3.5	20866	N14 E32	47	(B)	3	H	60	14	DAO
79	9	4	16269	N14 E20	46	1400	3.0	20866	N14 E19	47	(B)	4	H	100	25	DAO
79	9	5	16269	N14 E04	47	1800	3.0	20866	N15 E06	47	(B)	4	P	150	34	DAI
79	9	6	16269	N14 W07	47	2200	3.5	20866	N14 W08	48	(BY)	4	P	410	31	DHO
79	9	7	16269	N14 W20	46	2600	3.5	20866	N14 W21	47	(D)	4	P	380	47	EAI
79	9	8	16269	N14 W34	47	2800	3.5	20866	N14 W34	47	(BY)	4	H	260	14	DAO
79	9	9	16269	N14 W47	46	3000	3.5	20866	N14 W48	48	(BY)	4	H	290	17	DSO
79	9	10	16269	N14 W60	48	3900	3.5	20866	N14 W60	48	(B)	3	H	240	7	DSO
79	9	11	16269	N14 W73	48	3500	3.5	20866	N14 W74	49	(B)	3	H	130	4	CSO
79	9	12	16269	N14 W86	47	800	2.5									

MCMATH REGION 16276 CMP DATE 6.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	6	16276	S21 W05	45	100	1.5	20874	S21 W08	48	(AP)	3				
79	9	7	16276	S21 W18	44	200	1.5									
79	9	8	16276	S21 W31	44	300	1.5	20879	S22 W27	48	(B)	3				
79	9	9	16276	S21 W44	43	300	1.5									
79	9	10	16276	S21 W57	45	100	1.0									

MCMATH REGION 16270 CMP DATE 6.6

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	2	16270	N21 E53	38	200	1.5									
79	9	3	16270	N21 E40	40	100	1.5									
79	9	4	16270	N21 E27	39	200	1.5									

MCMATH REGION 16267 CMP DATE 7.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	31	16267	S20 E87	35	400	2.0									
79	9	1	16267	S22 E78	27	1200	3.0	20865	S18 E70	36	(AP)	4	H	170	5	DSO
79	9	2	16267	S21 E63	28	2500	3.5	20865	S18 E57	35	(B)	4	H	180	21	DSI
79	9	3	16267	S21 E50	30	3600	3.0	20865	S19 E44	35	(BP)	4	H	220	15	ESO
79	9	4	16267	S21 E37	29	4000	3.0	20865	S19 E36	30	(BP)	5	H	220	20	ESO
79	9	5	16267	S21 E21	30	3600	3.0	20865	S18 E18	35	(BP)	5	P	170	26	ESO
79	9	6	16267	S21 E10	30	3400	3.0	20865	S18 E04	36	(BY)	4	P	180	9	EHO
79	9	7	16267	S22 W03	29	3500	2.5	20865	S17 W13	39	(AP)	4				
79	9		16267					20875	S18 E00	26	(B)	3	P	150	16	EAO
79	9		16267					20876	S30 E07	19	(AF)	3	P	20	5	CRO
79	9	8	16267	S22 W16	29	3300	2.5	20865	S17 W26	39	(BP)	4	H	90	4	CSO
79	9		16267					20875	S17 W15	28	(AF)	2				
79	9		16267					20876	S32 W03	16	(BY)	2	H	10	2	BXO
79	9	9	16267	S22 W29	28	3500	2.5	20865	S19 W39	39	(BP)	4	H	90	4	CSO
79	9		16267					20886	S28 W32	20	(AF)	2				
79	9	10	16267	S22 W42	30	2700	2.5	20865	S18 W52	40	(AP)	3	H	60	2	CSO
79	9		16267					20886	S28 W45	28	(BY)	2				
79	9	11	16267	S22 W55	30	2900	3.0	20865	S17 W66	41	(AP)	3	H	50	1	HRX
79	9	12	16267	S24 W68	29	2500	3.0		S19 W79				R	20	1	AXX
79	9	13	16267	S24 W81	28	1400	2.0									

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MCMATH REGION 16281 CMP DATE 8.9

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	9	16281	S26	W10	9	200	1.5										
79	9	10	16281	S26	W23	11	400	2.5	20887	S26	W24	12	(B)	2				
79	9	11	16281	S26	W36	11	1000	3.0	20887	S26	W37	12	(BP)	4	H	40	7	CRO
79	9	12	16281	S26	W49	10	1300	2.5		S25	W53				R	60	4	CSO
79	9	13	16281	S26	W62	9	1200	2.5		S25	W59				H	30	1	HSX
79	9	14	16281	S26	W75	9	800	2.5										

MCMATH REGION 16274 CMP DATE 9.5

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	3	16274	S13	E79	1	700	2.0		S14	E77				H	80	1	HSX
79	9	4	16274	S13	E65	1	1500	2.0	20872	S12	E60	6	(AP)	2	H	0	1	AXX
79	9	5	16274	S13	E50	1	1300	2.5										
79	9	6	16274	S14	E39	1	1000	2.5										
79	9	7	16274	S14	E26	0	800	2.5										
79	9	8	16274	S14	E12	1	800	2.5										
79	9	9	16274	S14	W02	1	700	2.0		S16	W03				H	0	1	AXX
79	9	10	16274	S14	W15	3	800	2.0										
79	9	11	16274	S14	W28	3	800	2.0										
79	9	12	16274	S14	W41	2	1000	2.0										
79	9	13	16274	S14	W55	2	700	1.5										
79	9	14	16274	S14	W68	2	400	1.0										

MCMATH REGION 16273 CMP DATE 9.8 RETURN OF REGION 16287 ROTATION 3

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	3	16273	N28	E82	359	500	1.0										
79	9	4	16273	N28	E69	358	800	1.0										
79	9	5	16273	N27	E54	358	1000	2.0										
79	9	6	16273	N27	E42	359	1000	2.0										
79	9	7	16273	N27	E29	358	1000	2.0										
79	9	8	16273	N27	E16	358	1200	2.0										
79	9	9	16273	N27	E03	357	1000	2.0	20881	N28	E04	357	(AP)	2	H	10	1	AXX
79	9	10	16273	N27	W10	358	1000	2.0										
79	9	11	16273	N28	W22	357	1000	2.0										
79	9	12	16273	N29	W35	356	1000	2.0										
79	9	13	16273	N30	W48	355	800	1.5										
79	9	14	16273	N30	W61	355	1200	1.5										
79	9	15	16273	N30	W73	356	900	1.5										
79	9	16	16273	N30	W85	353	600	1.0										

MCMATH REGION 16275 CMP DATE 10.6 RETURN OF REGION 16288 ROTATION 3

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	4	16275	N15	E78	349	2700	3.5	20873	N13	E78	349	(AP)	3	H	280	9	DAO
79	9	5	16275	N15	E65	347	5500	3.5	20873	N13	E65	349	(BP)	4	P	280	19	EAO
79	9	6	16275	N15	E54	347	5500	3.5	20873	N13	E50	351	(B)	4	P	280	32	EAI
79	9	7	16275	N15	E40	347	6000	3.5	20873	N14	E41	346	(BY)	4	P	150	43	DSI
79	9	8	16275	N15	E27	347	6000	3.0	20873	N14	E30	344	(D)	4	H	140	16	DSO
79	9	9	16275	N15	E14	346	6300	4.0	20873	N14	E16	345	(BY)	4	H	130	26	DSO
79	9	10	16275	N15	E00	348	6600	3.5	20873	N14	E04	344	(BY)	4	H	80	10	DSO
79	9	11	16275	N15	W13	348	7000	3.5	20873	N14	W11	346	(BY)	4	H	50	6	CSO
79	9	12	16275	N15	W26	347	7000	3.5		N15	W21				R	40	13	CRO
79	9	13	16275	N15	W41	348	6800	3.0		N12	W36				H	60	5	DSO
79	9	14	16275	N15	W53	347	5800	3.0		N12	W56				R	50	6	CRO
79	9	15	16275	N15	W65	348	5500	3.0		N16	W65				H	10	1	AXX
79	9	16	16275	N15	W77	345	3600	3.0										

MCMATH REGION 16289 CMP DATE 11.4

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	12	16289	S24	W15	336	100	1.0										

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† MCMATH REGION 16299 CMP DATE 11.8

				CALCIUM		PLAGE DATA			SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	NW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	15	16299	S17	W49	332	100	1.5										
79	9	16	16299	S17	W62	330	500	1.5										
79	9	17	16299	S17	W75	329	400	1.5										

+ MCMATH REGION 16290 CMP DATE 12.0

				CALCIUM		PLAGE DATA			SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	NW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	12	16290	N13	W08	329	400	3.0		N13	W07				R	10	2	BXO
79	9	13	16290	N13	W22	329	400	2.5		N13	W14				H	20	6	BXO
79	9	14	16290	N13	W35	329	300	3.0										
79	9	15	16290	N13	W49	332	300	2.5		N13	W57				H	10	2	BXO
79	9	16	16290	N13	W65	333	400	2.0										
79	9	17	16290	N14	W79	333	500	1.5										

MCMATH REGION 16277 CMP DATE 12.3

				CALCIUM		PLAGE DATA			SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	NW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	6	16277	S04	E78	323	300	1.0										
79	9	7	16277	S04	E65	322	300	1.5										
79	9	8	16277	S04	E52	322	500	1.5										
79	9	9	16277	S04	E38	322	600	1.5										
79	9	10	16277	S04	E24	324	300	1.5										
79	9	11	16277	S04	E10	325	400	1.0										
79	9	12	16277	S04	W04	325	400	1.0										
79	9	13	16277	S04	W18	325	400	1.0										
79	9	14	16277	S04	W33	327	600	3.0		S05	W35				R	20	7	BXO
79	9	15	16277	S05	W47	330	800	2.5		S06	W54				H	10	2	BXO
79	9	16	16277	S05	W64	332	1200	2.5										
79	9	17	16277	S06	W77	331	900	1.5										

MCMATH REGION 16278 CMP DATE 12.4

				CALCIUM		PLAGE DATA			SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	NW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	7	16278	N27	E65	322	300	2.5	20877	N26	E63	324	(B)	3	P	20	2	BXO
79	9	8	16278	N27	E51	323	700	2.0	20877	N26	E58	324	(B)	3	H	40	4	DRO
79	9	9	16278	N26	E37	323	600	1.5	20877	N25	E33	328	(B)	3	H	20	4	CRO
79	9	10	16278	N26	E24	324	600	2.0	20877	N25	E18	330	(AP)	3	H	10	1	AXX
79	9	11	16278	N27	E11	324	800	1.5	20888	N14	E16	319	(AP)	1	H	10	2	BXO
79	9	12	16278	N27	W02	323	600	1.5										
79	9	13	16278	N27	W17	324	700	1.5										
79	9	14	16278	N27	W31	325	600	1.5										
79	9	15	16278	N27	W43	326	800	1.5										
79	9	16	16278	N27	W57	325	600	1.0										
79	9	17	16278	N27	W72	326	400	1.0										

MCMATH REGION 16309 CMP DATE 12.5

				CALCIUM		PLAGE DATA			SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	NW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	18	16309	S29	W80	322	100	2.0										

MCMATH REGION 16286 CMP DATE 13.0

				CALCIUM		PLAGE DATA			SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	NW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	11	16286	S20	E19	316	100	1.5										

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MCMATH REGION 16280 CMP DATE 13.6 RETURN OF REGION 16221 ROTATION 3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	7	16280	S11 E83	304	400	1.0									
79	9	8	16280	S11 E69	305	400	1.5									
79	9	9	16280	S11 E56	304	400	1.0									
79	9	10	16280	S11 E41	307	200	1.0									
79	9	11	16280	S11 E27	308	300	1.0									
79	9	12	16280	S11 E14	307	300	1.0									
79	9	13	16280	S11 E00	307	200	1.0									
79	9	14	16280	S11 W13	307	200	1.0									

MCMATH REGION 16279 CMP DATE 14.0 RETURN OF REGION 16218 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	7	16279	N13 E85	302	1000	2.0	20878	N13 E80	307	(AP)	3	P	20	1	HRX
79	9	8	16279	N13 E73	301	3000	3.5	20878	N14 E69	305	(BP)	3	M	110	4	CSO
79	9	9	16279	N13 E60	300	4300	3.5	20878	N11 E57	304	(B)	4	M	250	28	DAI
79	9	10	16279	N13 E47	301	4700	3.5	20878	N09 E44	304	(D)	4				
79	9		16279					20882	N12 E40	308	(BP)	4	M	230	18	DAI
79	9		16279					20884	N17 E47	301	(B)	3	M	100	6	DSO
79	9	11	16279	N13 E33	302	5400	3.5	20878	N09 E31	304	(BY)	4	M	210	35	DAI
79	9		16279					20882	N13 E27	308	(BY)	4	M	100	8	DSO
79	9		16279					20884	N17 E34	301	(BF)	3	M	110	8	DRO
79	9	12	16279	N13 E20	301	6000	3.5		N13 E16				R	120	13	CAO
79	9		16279						N08 E20				R	200	39	DAI
79	9		16279						N18 E20				R	80	25	DRI
79	9	13	16279	N13 E05	302	6300	3.5		N09 E12				M	180	21	DAI
79	9		16279						N17 E14				M	50	12	DRO
79	9		16279						N13 E09				M	80	2	HSX
79	9	14	16279	N13 W08	302	6200	3.0		N17 W05				R	10	3	BXO
79	9		16279						N13 W10				R	70	8	CAO
79	9		16279						N08 W09				R	440	36	DKI
79	9	15	16279	N13 W20	303	7000	3.5		N13 W31				M	50	6	CAO
79	9		16279						N09 W28				M	360	21	EAI
79	9	16	16279	N13 W33	301	6800	3.5									
79	9	17	16279	N13 W47	301	7100	3.5									
79	9	18	16279	N13 W60	302	6500	3.5									
79	9	19	16279	N13 W73	302	5500	3.5	20878	N08 W79	306	(B)	3	P	220	4	DAO
79	9	20	16279	N13 W86	302	1200	1.5									

MCMATH REGION 16301 CMP DATE 14.4

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	17	16301	S25 W43	297	200	2.0									
79	9	18	16301	S25 W54	296	100	1.5									

MCMATH REGION 16284 CMP DATE 15.4

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	10	16284	S13 E64	284	200	1.0									
79	9	11	16284	S14 E51	284	200	1.0									
79	9	12	16284	S13 E37	284	200	1.0									
79	9	13	16284	S13 E23	284	300	1.5									
79	9	14	16284	S13 E10	284	300	1.5		S13 E09				R	20	1	AXX
79	9	15	16284	S12 W02	285	500	1.0									
79	9	16	16284	S10 W17	285	500	3.0									
79	9	17	16284	S09 W30	284	600	2.5									
79	9	18	16284	S09 W43	285	500	3.0		S11 W44				R	20	2	AXX
79	9	19	16284	S09 W57	286	500	2.0	20889	S10 W57	286	(AP)	2	P	20	2	BXO
79	9	20	16284	S09 W69	285	400	2.0	20889	S10 W71	286	(AP)	2				

MCMATH REGION 16283 CMP DATE 15.5

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	10	16283	N11 E68	280	300	2.0									
79	9	11	16283	N11 E55	280	400	1.0									
79	9	12	16283	N11 E40	281	400	1.0									
79	9	13	16283	N13 E25	282	200	1.0									

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HCMATH REGION 16283 (CONT) CMP DATE 15.5

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA					
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
79	9	14	16283	N13 E12	282	200	1.0							
79	9	15	16283	N12 E01	282	200	1.0							
79	9	16	16283	N12 W12	280	200	1.0							
79	9	17	16283	N12 W25	279	200	1.0							

HCMATH REGION 16282 CMP DATE 16.1 RETURN OF REGION 16229 ROTATION 2

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA					
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
79	9	9	16282	N26 E85	275	800	2.5		N26 E79			M	50	1 HSX
79	9	10	16282	N27 E73	275	1100	3.0	20885	N26 E69	279	(BP)	4 M	60	1 HSX
79	9	11	16282	N27 E60	275	1400	2.5	20885	N26 E56	279	(BY)	4 M	100	8 CSO
79	9	12	16282	N27 E47	274	1800	3.5		N27 E46			R	100	16 DAI
79	9	13	16282	N27 E33	274	1600	2.5		N26 E39			M	100	8 DAO
79	9	14	16282	N27 E21	273	1600	3.0		N26 E20			R	50	11 DRO
79	9	15	16282	N27 E08	275	1800	3.5		N26 E02			M	40	7 DRO
79	9	16	16282	N27 W06	274	2000	3.0							
79	9	17	16282	N27 W18	272	1800	3.0							
79	9	18	16282	N27 W31	273	1800	3.0							
79	9	19	16282	N27 W44	273	1600	3.0							
79	9	20	16282	N27 W57	273	1600	2.5							
79	9	21	16282	N27 W73	273	1500	2.5							
79	9	22	16282	N28 W83	272	900	1.5							

HCMATH REGION 16285 CMP DATE 16.9 RETURN OF REGION 16224 ROTATION 2

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA					
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
79	9	10	16285	S25 E80	268	1200	2.0	20883	S26 E78	270	(AP)	3 M	190	1 HSX
79	9	11	16285	S25 E68	267	2000	2.0	20883	S25 E64	271	(AF)	3 M	200	1 HSX
79	9	12	16285	S25 E55	266	2800	2.5		S26 E54			R	400	1 HHX
79	9	13	16285	S25 E41	266	2600	3.0		S25 E46			M	220	1 HHX
79	9	14	16285	S24 E28	266	2800	2.5		S26 E28			R	300	3 CSO
79	9	15	16285	S25 E16	267	2800	3.0		S12 E17			M	10	5 BXO
79	9	16	16285	S25 E03	265	2500	2.5							
79	9	17	16285	S25 W10	264	2800	2.5		S26 W15			M	270	4 CHO
79	9	18	16285	S25 W22	264	2800	2.0		S28 W24			R	230	21 CHO
79	9	19	16285	S25 W34	263	2800	2.5	20883	S27 W37	266	(Y)	4 P	240	13 CHO
79	9	20	16285	S25 W46	262	2800	2.5	20883	S27 W51	266	(BP)	4 R	240	6 CHO
79	9	21	16285	S25 W61	261	2500	2.5	20883	S27 W64	266	(AF)	4 M	160	3 CAO
79	9	22	16285	S25 W71	260	1900	2.5	20883	S27 W79	267	AF	2 P	60	1 HSX
79	9	23	16285	S27 W84	260	900	1.0							

HCMATH REGION 16287 CMP DATE 16.9 RETURN OF PART OF REGION 16227 ROTATION 3

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA					
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
79	9	11	16287	N12 E76	259	200	1.5							
79	9	12	16287	N13 E60	261	200	1.5							
79	9	13	16287	N13 E45	262	200	1.0							
79	9	14	16287	N14 E30	264	200	1.0							

HCMATH REGION 16288 CMP DATE 17.8

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA					
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
79	9	11	16288	N26 E82	253	1400	2.0							
79	9	12	16288	N21 E69	252	1500	3.0		N21 E70			R	40	5 BXO
79	9	13	16288	N22 E56	251	1500	3.0		N20 E61			M	30	4 CRO
79	9	14	16288	N22 E43	251	1500	3.0		N19 E43			R	70	11 DRO
79	9	15	16288	N21 E30	253	1700	3.0		N20 E23			M	30	8 DRO
79	9	16	16288	N21 E16	252	2000	3.0							
79	9	17	16288	N21 E02	252	2000	2.5							
79	9	18	16288	N21 W11	253	2000	2.5		N21 W10			R	20	10 BXO
79	9	19	16288	N21 W24	253	2000	2.5	20891	N21 W23	252	AP	1 P	10	3 BXO
79	9	20	16288	N21 W37	253	1800	2.5							
79	9	21	16288	N21 W53	253	1800	2.0							
79	9	22	16288	N21 W64	253	1700	2.0							
79	9	23	16288	N21 W77	253	1700	1.5							
79	9	24	16288	N21 W90	253	600	1.0							

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HCMATH REGION 16293 CMP DATE 17.8 RETURN OF REGION 16243 AND PART OF REGION 16231 ROTATION 2 AND 3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	11	16293	S16 E82	253	700	1.0									
79	9	12	16293	S16 E70	251	1200	1.0									
79	9	13	16293	S15 E55	252	1200	1.5									
79	9	14	16293	S14 E40	254	1000	2.0		S12 E32				R	30	4	BXO
79	9	15	16293	S15 E28	255	1800	2.5									
79	9	16	16293	S15 E15	253	2100	2.0									
79	9	17	16293	S15 E02	252	2000	2.5									
79	9	18	16293	S15 W11	253	1700	2.5		S18 W13				R	20	4	BXO
79	9	19	16293	S14 W24	253	1600	3.0	20890	S12 W25	254	(B)	3	P	10	3	BXO
79	9	20	16293	S14 W37	253	1400	3.0									
79	9	21	16293	S14 W53	253	1100	3.0									
79	9	22	16293	S14 W63	252	500	2.5									
79	9	23	16293	S15 W76	252	400	1.5									

HCMATH REGION 16317 CMP DATE 18.9

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	22	16317	N21 W49	238	100	1.5									

HCMATH REGION 16291 CMP DATE 19.1

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	12	16291	N34 E82	239	200	1.0									
79	9	13	16291	N34 E71	236	200	2.0									
79	9	14	16291	N34 E60	234	300	2.0		N31 E58				R	30	3	BXO
79	9	15	16291	N33 E47	236	500	3.0		N33 E40				H	20	3	CRO
79	9	16	16291	N33 E33	235	800	2.5									
79	9	17	16291	N33 E20	234	800	2.5									
79	9	18	16291	N33 E07	235	500	2.0									
79	9	19	16291	N33 W06	235	600	1.5									
79	9	20	16291	N33 W19	235	500	2.0									
79	9	21	16291	N33 W35	235	400	2.0									
79	9	22	16291	N33 W45	234	300	1.0									
79	9	23	16291	N33 W58	234	200	1.0									

HCMATH REGION 16302 CMP DATE 19.2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	17	16302	S26 E21	233	300	2.5									
79	9	18	16302	S26 E08	234	200	1.0									

HCMATH REGION 16295 CMP DATE 19.3 RETURN OF PART OF REGIONS 16231 AND 16240 ROTATION 3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	13	16295	S13 E74	233	900	2.0									
79	9	14	16295	S13 E63	231	1500	2.0		S13 E67				R	50	2	CRO
79	9	15	16295	S14 E50	233	1500	2.5		S12 E50				H	20	1	AXX
79	9	16	16295	S13 E37	231	1500	3.0									
79	9	17	16295	S13 E24	230	2300	2.5									
79	9	18	16295	S13 E10	232	2000	3.0		S12 E09				R	30	8	BXO
79	9	19	16295	S13 W03	232	1800	3.0	20892	S12 E00	229	(AP)	2	P	10	1	AXX
79	9	20	16295	S13 W17	233	1500	2.5									
79	9	21	16295	S13 W34	234	1200	2.5									
79	9	22	16295	S14 W44	233	1300	2.5	20904	S17 W50	238	(B)	3	P	20	2	BXO
79	9	23	16295	S14 W57	233	1300	2.0									
79	9	24	16295	S14 W70	233	800	1.5									

HCMATH REGION 16296 CMP DATE 20.2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	14	16296	N17 E78	216	400	1.5									
79	9	15	16296	N17 E65	218	500	2.5		N17 E57				H	10	1	AXX

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MCMATH REGION 16296 (CONT) CMP DATE 20.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	16	16296	N17 E50	218	600	2.0									
79	9	17	16296	N17 E37	217	800	2.5									
79	9	18	16296	N16 E23	219	800	2.0									
79	9	19	16296	N16 E08	221	500	1.5	20893	N20 E06	223	(AP)	2	P	10	1	AXX
79	9	20	16296	N16 W05	221	300	1.0									

MCMATH REGION 16319 CMP DATE 20.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	23	16319	N16 W45	221	800	3.5									
79	9	24	16319	N15 W58	221	1200	3.0		N13 W58				R	60	11	DSI
79	9	25	16319	N15 W72	222	1200	2.5									
79	9	26	16319	N14 W85	222	900	2.0									

MCMATH REGION 16297 CMP DATE 21.0 RETURN OF PART OF REGION 16248 ROTATION 3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	15	16297	S23 E72	211	300	1.0									
79	9	16	16297	S20 E58	210	700	1.0									
79	9	17	16297	S21 E46	208	900	1.5									
79	9	18	16297	S21 E33	209	700	1.5									
79	9	19	16297	S21 E19	210	400	1.0	20894	S22 E20	209	(AF)	2	P	20	4	BXO
79	9	20	16297	S21 E06	210	200	1.0	20894	S22 E04	211	(AF)	2	R	10	1	AXX
79	9	21	16297	S21 W10	210	200	1.0									

MCMATH REGION 16303 CMP DATE 21.0

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	15	16303	S11 E74	209	300	1.0									
79	9	16	16303	S10 E60	208	300	1.0									
79	9	17	16303	S10 E46	208	200	1.0									
79	9	18	16303	S10 E33	209	400	1.0									
79	9	19	16303	S10 E20	209	300	1.0									
79	9	20	16303	S11 E06	210	300	1.5									
79	9	21	16303	S12 W10	210	300	1.5									
79	9	22	16303	S12 W20	209	300	1.5									
79	9	23	16303	S12 W34	210	300	1.5									
79	9	24	16303	S12 W48	211	300	1.5									
79	9	25	16303	S12 W61	211	200	1.0									

MCMATH REGION 16304 CMP DATE 22.1 RETURN OF REGION 16248 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	16	16304	S10 E74	194	200	1.0									
79	9	17	16304	S10 E62	192	400	1.5									
79	9	18	16304	S10 E49	193	200	1.0									
79	9	19	16304	S09 E35	194	500	3.0									
79	9	20	16304	S09 E20	196	500	2.0									
79	9	21	16304	S09 E04	196	700	2.5									
79	9	22	16304	S09 W07	196	700	2.5									
79	9	23	16304	S09 W21	197	700	2.5									
79	9	24	16304	S09 W35	198	900	2.5		S10 W36				R	10	3	BXO
79	9	25	16304	S09 W48	198	800	2.0									
79	9	26	16304	S09 W61	198	800	1.5									
79	9	27	16304	S09 W75	198	500	1.0									

MCMATH REGION 16298 CMP DATE 22.3 RETURN OF REGION 16239 AND NEW ROTATIONS 2 AND 1

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	15	16298	N06 E88	195	2000	2.5		N06 E81				H	220	3	DAO
79	9	16	16298	N06 E78	190	7500	3.5									
79	9	17	16298	N06 E64	190	9000	3.5		N06 E68				H	1070	19	FKI
79	9	18	16298	N06 E50	192	9000	3.5		N05 E52				R	1120	59	EKI

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MCMATH REGION 16298 (CONT) CMP DATE 22.3 RETURN OF REGION 16239 AND NEW ROTATIONS 2 AND 1

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	19	16298	N06 E35	194	9000	4.0	20895	N05 E37	192	(D)	5	P	1150	81	EKC
79	9		16298					20896	S03 E35	194	(AP)	2				
79	9	20	16298	N05 E21	195	9000	4.0	20895	N05 E25	190	(D)	4	R	900	48	EKI
79	9	21	16298	N05 E06	194	10000	4.0	20895	N05 E11	191	(BY)	4	H	740	58	FKI
79	9	22	16298	N06 W05	194	10000	3.5	20895	N05 W02	190	(Y)	5	P	740	40	EKI
79	9	23	16298	N06 W19	195	11000	3.5	20895	N05 W15	190	(B)	4				
79	9	24	16298	N06 W32	195	10800	3.5									
79	9	25	16298	N06 W46	196	10600	3.5	20895	N06 W42	191	(BP)	4				
79	9	26	16298	N06 W59	196	10500	3.5	20895	N07 W54	190	(BY)	4				
79	9	27	16298	N06 W73	196	10500	3.0	20895	N07 W69	191	(BY)	3				
79	9	28	16298	N05 W88	196	3600	2.5	20895	N07 W80	189	(B)	2				
79	9	29	16298	N06 W90	187	1200	1.0									

MCMATH REGION 16300 CMP DATE 22.3

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	16	16300	S23 E87	181	500	2.0									
79	9	17	16300	S23 E63	191	1000	2.0									
79	9	18	16300	S23 E50	192	1200	2.0		S22 E47				R	60	5	CSO
79	9	19	16300	S22 E36	193	700	2.0	20898	S22 E33	196	(AP)	4	P	30	2	HSO
79	9	20	16300	S22 E23	193	700	2.0	20898	S22 E20	195	(AP)	4	R	30	1	HRX
79	9	21	16300	S23 E07	193	700	2.0	20898	S21 E07	195	(AP)	4	H	30	6	CSO
79	9	22	16300	S23 W03	192	500	2.0	20898	S20 W06	194	(AP)	3	P	20	2	HSX
79	9	23	16300	S23 W16	192	500	2.0	20898	S20 W19	194	(AP)	3				
79	9	24	16300	S23 W28	191	600	2.0									
79	9	25	16300	S23 W42	192	700	1.5	20898	S20 W45	194	AP	2				
79	9	26	16300	S23 W55	192	500	1.0									
79	9	27	16300	S23 W68	191	400	1.0									

MCMATH REGION 16307 CMP DATE 22.7 RETURN OF REGION 16238 ROTATION 4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	16	16307	N23 E78	190	300	1.0									
79	9	17	16307	N23 E64	190	1100	1.5									
79	9	18	16307	N23 E52	190	1200	1.5									
79	9	19	16307	N23 E40	189	1000	1.5									
79	9	20	16307	N23 E28	188	800	1.0									
79	9	21	16307	N23 E12	188	800	1.0									
79	9	22	16307	N23 E01	188	700	1.0		N23 W03				P	10	2	BXO
79	9	23	16307	N23 W13	189	1200	3.5									
79	9	24	16307	N23 W27	190	1400	2.5		N22 W27				R	150	17	CAO
79	9	25	16307	N23 W41	191	1500	3.5									
79	9	26	16307	N23 W54	191	1900	2.5									
79	9	27	16307	N23 W67	190	2300	2.5									
79	9	28	16307	N22 W82	190	2100	3.0									
79	9	29	16307	N22 W90	187	600	1.0									

MCMATH REGION 16306 CMP DATE 23.9 RETURN OF REGION 16241 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	17	16306	S34 E84	170	800	1.0									
79	9	18	16306	S34 E70	172	1800	1.5									
79	9	19	16306	S33 E54	175	1500	2.0									
79	9	20	16306	S34 E41	175	1900	2.0									
79	9	21	16306	S34 E25	175	1700	2.0									
79	9	22	16306	S34 E16	173	1700	2.0									
79	9	23	16306	S34 E05	171	1700	2.0									
79	9	24	16306	S34 W07	170	1800	2.0									
79	9	25	16306	S34 W19	169	1800	1.5									
79	9	26	16306	S34 W32	169	1800	1.5									
79	9	27	16306	S33 W45	168	1800	1.5									
79	9	28	16306	S33 W59	167	1700	2.0									
79	9	29	16306	S33 W68	165	1500	1.0									

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MCMATH REGION 16305 CMP DATE 24.3

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	17	16305	S14 E88	166	300	1.0									
79	9	18	16305	S15 E76	166	2000	3.5		S13 E70				R	20	1	AXX
79	9	19	16305	S15 E63	166	3000	3.0	20901	S13 E56	173	(AP)	3	P	10	1	AXX
79	9	20	16305	S16 E50	166	3600	2.5	20901	S13 E42	173	(AP)	3				
79	9	21	16305	S17 E34	166	3800	3.0	20901	S13 E29	173	(AP)	3	H	20	4	CRO
79	9	22	16305	S16 E23	166	3800	2.5	20901	S12 E16	172	(BF)	2	P	10	5	BXO
79	9	23	16305	S16 E10	166	4000	2.5									
79	9	24	16305	S16 W05	168	3500	3.0									
79	9	25	16305	S16 W19	169	3500	3.0									
79	9	26	16305	S17 W31	168	3500	3.0									
79	9	27	16305	S17 W44	167	2700	3.0									
79	9	28	16305	S17 W59	167	2500	3.0									
79	9	29	16305	S17 W70	167	1900	1.5									
79	9	30	16305	S20 W90	174	600	1.0									

MCMATH REGION 16310 CMP DATE 24.5

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	18	16310	N27 E79	163	500	3.5									
79	9	19	16310	N27 E65	164	1500	3.0	20899	N27 E64	165	(B)	4	P	100	10	DAO
79	9	20	16310	N27 E53	163	1700	3.0	20899	N27 E51	164	(B)	4	R	100	17	ESO
79	9	21	16310	N27 E37	163	2000	3.5	20899	N27 E38	164	(B)	4	H	160	25	ESI
79	9	22	16310	N27 E26	163	2000	2.5	20899	N27 E26	162	(B)	4	P	100	13	ESO
79	9	23	16310	N27 E13	163	2000	3.5	20899	N27 E13	162	(B)	3	P	150	30	ESI
79	9	24	16310	N27 E00	163	2600	3.5		N26 E01				R	130	46	EAI
79	9	25	16310	N27 W13	163	3000	3.5	20899	N27 W11	160	B	3				
79	9	26	16310	N27 W26	163	3000	3.0	20899	N27 W24	160	(B)	3				
79	9	27	16310	N27 W39	162	3000	2.5	20899	N27 W38	160	(B)	2				
79	9	28	16310	N27 W54	162	2700	3.0	20899	N27 W50	159	(B)	3	H	20	2	BXO
79	9	29	16310	N27 W64	161	3100	2.5									
79	9	30	16310	N28 W78	162	1700	2.5									

MCMATH REGION 16312 CMP DATE 24.5 RETURN OF REGION 16258 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	18	16312	N14 E80	162	300	1.0									
79	9	19	16312	N15 E66	161	800	1.0	20900	N12 E65	164	(B)	3	P	10	2	BXO
79	9	20	16312	N14 E54	162	600	1.5									
79	9	21	16312	N14 E38	162	700	1.0		N12 E32				H	20	2	CRO
79	9	22	16312	N14 E27	162	700	1.0									
79	9	23	16312	N14 E14	162	900	1.5									
79	9	24	16312	N14 W01	164	900	1.5									
79	9	25	16312	N14 W15	165	900	2.0									
79	9	26	16312	N14 W28	165	600	2.0									
79	9	27	16312	N15 W43	166	500	1.0									
79	9	28	16312	N15 W58	166	500	1.0									

MCMATH REGION 16326 CMP DATE 25.3

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	24	16326	S23 E10	153	200	2.0									
79	9	25	16326	S23 W03	153	300	1.5									
79	9	26	16326	S23 W16	153	200	1.0									
79	9	27	16326	S23 W29	152	200	1.0									

MCMATH REGION 16327 CMP DATE 25.3

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	24	16327	S30 E09	154	400	2.5									
79	9	25	16327	S30 W03	153	600	1.5									
79	9	26	16327	S30 W15	152	500	1.0									
79	9	27	16327	S30 W28	151	300	1.0									
79	9	28	16327	S30 W43	151	100	1.0									
79	9	29	16327	S30 W53	150	200	1.0									

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MCMATH REGION 16314 CMP DATE 25.6

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
79	9	20	16314	S13	E68	148	300	1.0
79	9	21	16314	S12	E52	148	200	1.5
79	9	22	16314	S12	E40	149	500	2.5
79	9	23	16314	S13	E26	150	800	3.0
79	9	24	16314	S14	E13	150	1300	2.5
79	9	25	16314	S14	W02	152	1700	2.5
79	9	26	16314	S14	W15	152	1700	2.0
79	9	27	16314	S14	W29	152	1700	2.5
79	9	28	16314	S14	W44	152	1700	3.0
79	9	29	16314	S14	W56	153	1500	2.5
79	9	30	16314	S14	W70	154	1400	1.5
79	10	1	16314	S15	W87		600	1.5

SUNSPOT DATA

NW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
20906	S13	E38	150	(B)	3	P	70	10	DAO
20906	S14	E24	151	(B)	4				
	S15	E12				R	260	20	DAO
20906	S13	W08	157	AP	4	R	170	19	CKO
20906	S13	W22	158	(BP)	4				
20906	S13	W35	157	(BP)	4				
20906	S13	W48	157	(BP)	5				
20906	S13	W77	161	(AP)	3	R	70	1	HHX

MCMATH REGION 16313 CMP DATE 25.8

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
79	9	19	16313	N19	E81	148	300	1.0
79	9	20	16313	N18	E67	149	500	1.0
79	9	21	16313	N18	E52	148	500	1.0
79	9	22	16313	N18	E42	147	500	1.0
79	9	23	16313	N17	E29	147	700	2.0
79	9	24	16313	N17	E16	147	700	2.0
79	9	25	16313	N17	E03	147	800	2.0
79	9	26	16313	N17	W11	148	800	2.0
79	9	27	16313	N17	W25	148	800	2.5
79	9	28	16313	N17	W39	147	900	2.5
79	9	29	16313	N16	W50	147	1300	2.5
79	9	30	16313	N16	W64	148	1100	2.0
79	10	1	16313	N16	W81		500	1.0

SUNSPOT DATA

NW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
	N20	E52				M	0	1	AXX
20907	N16	E42	146	(B)	2				
20907	N16	E28	147	AP	1				
20907	N17	E01	148	B	3	R	20	13	BXO
20907	N17	W11	147	(B)	2				
20907	N16	W28	150	(AP)	3				
20907	N16	W40	149	(B)	3				
20907	N15	W67	151	(AP)	2	R	20	2	BXO

MCMATH REGION 16321 CMP DATE 26.5

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
79	9	23	16321	S14	E40	136	200	3.0
79	9	24	16321	S13	E26	137	700	3.0
79	9	25	16321	S13	E13	137	1200	3.0
79	9	26	16321	S13	W01	138	1000	3.0
79	9	27	16321	S13	W15	138	1400	3.0
79	9	28	16321	S13	W30	138	1800	2.5
79	9	29	16321	S13	W41	138	2100	2.5
79	9	30	16321	S13	W55	139	2000	3.0
79	10	1	16321	S14	W73		2000	2.0
79	10	2	16321	S14	W85		800	2.0

SUNSPOT DATA

NW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
20912	S13	E39	136	(AP)	3				
	S14	E26				R	40	12	CRI
20912	S13	E09	140	BP	3	R	130	23	DAI
20912	S13	W04	140	(BP)	4	B	110	11	DXX
20912	S13	W17	139	(B)	3				
20912	S13	W31	140	(B)	4				
20912	S13	W57	141	(B)	4	R	210	11	DAO
20912	S13	W71		B	3	B	130	4	D
20912	S13	E80		(AP)	3	B	30	1	H

MCMATH REGION 16320 CMP DATE 26.7

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
79	9	23	16320	N09	E43	133	400	3.0
79	9	24	16320	N10	E29	134	700	2.5
79	9	25	16320	N10	E15	135	800	2.5
79	9	26	16320	N10	E02	135	600	2.0
79	9	27	16320	N10	W12	135	400	2.0
79	9	28	16320	N09	W27	135	300	2.0
79	9	29	16320	N09	W40	137	400	2.0
79	9	30	16320	N10	W54	138	400	1.5

SUNSPOT DATA

NW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
	N09	E27				R	50	10	CRO
20916	N09	E03	133	(AP)	3				

MCMATH REGION 16315 CMP DATE 27.5

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
79	9	20	16315	N18	E88	128	300	1.0
79	9	21	16315	N17	E77	123	1700	3.5
79	9	22	16315	N17	E67	122	1700	2.5
79	9	23	16315	N17	E53	123	2700	3.0
79	9	24	16315	N17	E40	123	3000	3.5
79	9	25	16315	N18	E25	125	3300	3.0
79	9	26	16315	N18	E12	125	3100	3.5

SUNSPOT DATA

NW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
20903	N17	E76	126	(AP)	4	M	140	1	HSX
20903	N16	E63	125	(BP)	4				
20903	N17	E49	126	(BP)	4				
20903	N19	E24	125	B	4	R	260	46	EAO
20903	N17	E09	127	(B)	4				

CONTD

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MCMATH REGION 16315 (CONT) CMP DATE 27.5

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	27	16315	N18 W02	125	3700	3.5	20903	N17 W04	126	(B)	4				
79	9	28	16315	N19 W17	125	4000	3.5	20903	N17 W16	125	(B)	4				
79	9	29	16315	N19 W28	125	5000	3.5		N21 W31				H	290	21	DKI
79	9	30	16315	N18 W42	126	5000	3.5	20903	N20 W41	125	(B)	5	R	1290	85	EKI
79	10	1	16315	N18 W58		5000	3.5	20903	N20 W54		(B)	5				
79	10	2	16315	N18 W69		5000	3.5	20903	N20 W65		(B)	4				
79	10	3	16315					20903	N20 W80		(B)	4				

MCMATH REGION 16316 CMP DATE 27.5

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	22	16316	S08 E66	123	100	1.5									
79	9	23	16316	S08 E52	124	100	1.0									

MCMATH REGION 16318 CMP DATE 28.5 RETURN OF PART OF REGION 16252 ROTATION 2

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	22	16318	N14 E81	108	800	2.0									
79	9	23	16318	N14 E68	108	1200	1.5									
79	9	24	16318	N16 E55	108	1400	1.5									
79	9	25	16318	N16 E41	109	1800	1.5	20914	N14 E37	112	AP	3	R	90	1	HSX
79	9	26	16318	N16 E28	109	1200	1.5	20914	N14 E24	112	(AP)	4				
79	9	27	16318	N16 E14	109	1300	1.5	20914	N15 E11	111	(AP)	5				
79	9	28	16318	N16 W03	111	1300	2.0	20914	N16 W03	112	(BY)	5				
79	9	29	16318	N16 W14	111	1600	2.5									
79	9	30	16318	N16 W27	111	1800	2.0	20914	N15 W28	112	(BP)	5	R	100	10	CSO
79	10	1	16318	N15 W44		1400	2.0	20914	N15 W41		(AP)	4	B	50	2	C
79	10	2	16318	N15 W56		1400	2.0	20914	N15 W55		(AP)	4	B	40	1	H
79	10	3	16318					20914	N14 W68		(AP)	2	B	60	1	H
79	10	4	16318					20914	N14 W86		(AP)	2	B	50	1	H

MCMATH REGION 16322 CMP DATE 28.6

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	23	16322	S28 E67	109	300	2.0	20913	S26 E63	112	(AP)	2				
79	9	24	16322	S27 E53	110	400	2.5		S27 E54				R	20	4	BXO
79	9	25	16322	S26 E39	111	900	3.0	20913	S27 E38	111	B	2	R	70	12	DRI
79	9	26	16322	S27 E26	111	700	2.5	20913	S26 E25	111	(B)	3				
79	9	27	16322	S26 E13	110	1200	3.0	20913	S26 E12	110	(B)	3	R	50	12	CRO
79	9	28	16322	S26 W01	109	1100	2.5	20913	S26 W02	111	(B)	3				
79	9	29	16322	S25 W12	109	1400	3.0									
79	9	30	16322	S25 W26	110	1200	3.0	20913	S25 W27	111	(B)	4	R	50	9	DRO
79	10	1	16322	S26 W44		1800	3.0	20913	S26 W38		(BF)	3	B	20	6	C
79	10	2	16322	S26 W55		1800	2.5	20913	S26 W50		(B)	3	B	30	6	C
79	10	3	16322					20913	S27 W64		(B)	3	B	30	5	B

MCMATH REGION 16323 CMP DATE 28.6

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	23	16323	S35 E65	1 11	100	1.0									
79	9	24	16323	S34 E51	112	100	1.0									
79	9	25	16323	S33 E38	112	100	1.0									
79	9	26	16323	S33 E25	112	100	1.0									
79	9	27	16323	S33 E13	110	200	1.0									
79	9	28	16323	S33 E00	108	100	1.5									
79	9	29	16323	S35 W11	108	400	1.0									
79	9	30	16323	S33 W21	105	400	1.0									
79	10	1	16323	S34 W37		500	1.0									
79	10	2	16323	S34 W47		300	1.0									

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MCMATH REGION 16328 CMP DATE 28.8

				CALCIUM	PLAGE	DATA			SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	24	16328	S20 E56	107	200	1.0									

MCMATH REGION 16330 CMP DATE 29.1

				CALCIUM	PLAGE	DATA			SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	25	16330	N27 E47	103	300	1.5									
79	9	26	16330	N26 E34	103	500	3.0									
79	9	27	16330	N26 E19	104	600	2.0									
79	9	28	16330	N26 E04	104	500	1.5									
79	9	29	16330	N25 W07	104	300	1.0									
79	9	30	16330	N26 W25	109	400	1.5									

MCMATH REGION 16325 CMP DATE 29.8 RETURN OF PART OF REGION 16252 ROTATION 2

				CALCIUM	PLAGE	DATA			SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	23	16325	N16 E84	92	2800	3.0									
79	9	24	16325	N16 E70	93	4000	3.5									
79	9	25	16325	N16 E56	94	5000	3.5		N16 E52				R	460	35	EKI
79	9	26	16325	N16 E43	94	4700	3.5									
79	9	27	16325	N17 E30	93	5000	3.5									
79	9	28	16325	N17 E15	93	4600	3.0									
79	9	29	16325	N18 E03	94	5000	3.0									
79	9	30	16325	N19 W12	96	4500	3.0									
79	10	1	16325	N18 W29		3700	3.0	20908	N16 W31		(BP)	5	B	250	11	D
79	10		16325					20925	N21 W26		(B)	3				
79	10	2	16325	N18 W40		4000	3.0	20908	N17 W45		(AP)	5	B	250	6	D
79	10		16325	N20 W41				20925	N20 W41		(AP)	3				
79	10	3	16325					20908	N17 W57		AP	4	B	190	7	C
79	10		16325					20925	N20 W55		AP	1				
79	10	4	16325					20908	N16 W73		(AP)	3	B	130	1	H
79	10	5	16325	N19 W80		2400	2.0	20908	N16 W85		(AP)	2	B	90	1	H

MCMATH REGION 16324 CMP DATE 30.1 RETURN OF REGION 16271 ROTATION 2

				CALCIUM	PLAGE	DATA			SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	9	23	16324	S20 E88	88	300	1.0									
79	9	24	16324	S21 E75	88	1500	3.0									
79	9	25	16324	S21 E62	88	2100	2.5	20915	S21 E57	92	BP	2				
79	9	26	16324	S22 E48	89	2300	3.5	20915	S22 E44	92	(BP)	4				
79	9	27	16324	S23 E35	88	2000	3.0	20915	S20 E30	92	(BP)	3				
79	9		16324					20918	S23 E30	92	(AP)	3	R	100	9	CAO
79	9	28	16324	S23 E20	88	1700	2.5	20915	S20 E18	91	(BY)	4				
79	9		16324					20918	S23 E17	92	(AP)	4				
79	9	29	16324	S23 E07	90	2000	2.5									
79	9	30	16324	S23 W06	90	2200	3.0	20915	S23 W07	91	(BY)	3	R	90	18	DRI
79	10	1	16324	S24 W24		2600	3.0	20915	S24 W21		(BY)	3	B	120	27	D
79	10	2	16324	S24 W34		3000	3.0	20915	S23 W33		(B)	3	B	70	13	C
79	10	3	16324					20915	S24 W48		(B)	3	B	80	9	D
79	10	4	16324					20915	S23 W63		(B)	3	B	90	5	D
79	10	5	16324	S24 W75		2000	2.5	20915	S24 W76		B	2	B	160	4	D

NOTE: CALCIUM SPECTROHELIOGRAMS WERE SECURED AT THE MCMATH-HULBERT OBSERVATORY ON EVERY DAY OF SEPTEMBER 1979.

NO SUNSPOT OBSERVATIONS WERE MADE AT MT. WILSON ON SEPTEMBER 12, 13, 14, 15, 16, 17, 18, 24 AND 29, 1979.

REGIONS OF SOLAR ACTIVITY

SEPTEMBER 1979

DAILY CALCIUM PLAGE INDEX

SEPTEMBER 1979

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
79	9	1	38.6	79	9	11	56.4	79	9	21	72.7
79	9	2	40.8	79	9	12	59.8	79	9	22	62.7
79	9	3	46.8	79	9	13	53.8	79	9	23	76.7
79	9	4	54.9	79	9	14	48.5	79	9	24	85.5
79	9	5	56.6	79	9	15	56.9	79	9	25	89.8
79	9	6	55.8	79	9	16	56.0	79	9	26	80.5
79	9	7	53.6	79	9	17	63.2	79	9	27	72.7
79	9	8	50.4	79	9	18	63.0	79	9	28	58.4
79	9	9	54.3	79	9	19	68.8	79	9	29	60.5
79	9	10	52.8	79	9	20	65.5	79	9	30	53.5

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

SEPTEMBER 1979

DAY	UNIVERSAL TIME				WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE							KNOWN FLARE	McMATH REGION
	START	END	MAX	IMP		SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD		
01	0619	0725	0631	1-	3			2					0620	16267
01	0733	0837	0743	1-	3			2					0731	16264
01	1950	2106	2008	1-	1						1		1949	16264
02	0025	0418	0045	1+	5	1		1	2		1		0030E	16267
02	0658	0829	0711	1+	5	1		2	2		2		0700E	16252
02	1201	1300	1223U	1-	3			2					*	
02	2300	2335	2316	1-	1				1				2255	16241
03	0426	0553	0444	2-	3	1			2				0424	16267
03	1222	1232	1223	1-	1						1		*	
03	1428	1500D	1500	1-	3				1		3		1421	.6260
03	1859	2019	1909	1-	5	3			1		10		1857	16263
04	1339	1430	1350	1	5	2		1	2		2		NF	
04	1621	1636	1622	1-	1						1		1621	16264
04	1633	1702	1639	1-	1	1					1		1628	16264
04	1700	1807	1715	1-	5	3			1		7		1704	16264
04	1749	1845	1800	1-	1						1		1740	16271
04	2314	2345	2317	1-	1	1							2316	16263
05	0404	0520	0415	1+	3	1			1				0408	16269
05	0705	0737	0713	1-	3			1	1				0705E	16269
05	1426	1503	1443	1-	3				1		2		1424	16275
06	0736	0835	0745	1-	3				2		1		0732	16275
06	1238	1256	1252	1-	3			2					*	
06	1334	1420	1337U	1-	1			1					1333	16252
06	1407	1454	1420	1-	1						1		1411	16252
07	0057	0126	0102	1-	5	1			2		1		0057	16267
07	0349	0454	0400	1-	5	1			2				NF	
07	0549	0615	0558	1-	1				1				*	
07	1110	1145	1120	1-	1				1				1113	16267
07	1519	1552	1530	1-	3			2					1515	16275
07	1708	1717D	1717	1-	1						1		1712	16269
07	1950	2030U	2005U	1-	1	1							1950	16267
07	2100	2120	1206	1-	1						1		2058	16263
08	0406	0448	0415	1-	1				1				0405	16263
08	0645	0821	0656	2	5	3		4	2		2		0644	16271
08	0900	0935	0910	1	5	1		1	2		1		0904E	16275
09	0156	0413	0205	1-	3				2				0151	16275
09	0242E	0346	0251	1+	5	1			1		1		0241	16275
09	1212	1300	1220	1-	3				1		2		*	
09	1400	1500	1422	1-	3				1		2		1358	16264
09	1923	2000	1927	1-	1						1		1922	16279
09	2053	2115	2059	1-	1						1		2052	16263
09	2130	2210	2033	1-	1						1		*	
09	2213	2230	2223	1-	1						1		*	
10	0402E	0436	0409	1-	1				1				*	
10	0515	0620	0524	1+	5	1		1	2				*	
10	1359	1430	1407	1-	1				1		1		1357	16275
10	1505	1622	1523	1-	5	1			1		11		1505	16269
10	1737	1900	1750	1-	5	3			1		10		1735	16269
10	2242	2354	2254	1-	5	2			1		3		2239	16279
11	0151	0236	0202	1-	3				2				0150	16279
11	0524	0609	0530	1-	1				1				0525	16279
11	0842	0921	0847	1-	1				1				0844	16269
11	1258	1327	1309	1-	3			2					1259	16279
11	1345	1418	1356	1	5	4		5	2		10		1343	16275
11	1405E	1615	1405	1+	1				1		1		1403	16279
11	1637	1745	1655	1-	5	1			1		7		1635	16279
12	0052	0202	0106	1-	1				1				0054	16279
12	1229	1405	1250	1-	1				1		1		1228	16267
12	2311	0044	0021	1-	1				1				2311	16279
13	0624	0721	0630	1-	3			2					0623	16285
13	0804	0835	0812	1-	5			3	2		1		0802	16279
13	1310	1446	1321	1	5	3		5	2		6		1309	16279
13	1455	1524	1501	1-	3						2		1454	16279
13	1950	2045	2005	1	5						6		1949	16279
13	2050	2249	2105	1+	5	3			1		6		2058	16279
14	0113	0200D	0132	1-	3				1		1		0117	16279
14	0324	0452	0333	1+	5	2			1				*	
14	0606E	0650D	0623	1+	1				1				0616E	16279
14	0650E	1100	0745	3	5	4		3	2				NF	
14	0732	1310		1-	1	1							0731	16279
14	0815	0840	0822	1-	3			2					0810	16296
14	1432	1453	1442	1-	5			1	2		8		1421	16279
14	1700	1755	1715	1	5	1					6		1700	16275
14	1934	2040	1950	1-	5	1			1		12		1922	16279
14	2126	2157	2138	1-	5				1		3		2130	16279

SUDDEN IONOSPHERIC DISTURBANCES

SEPTEMBER 1979

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
15	0113	0230	0122	2	5	1		1	2		1		NF	
15	1023	1200	1040	3	5	4		5	3		3		1024	12698
15	1615	1735	1632	1-	5				1		12		1616	16279
16	0102	0306	0116	3	5	1		1	2		3		0108	16298
16	0759	0933D	0808	2	5	3		6	3		2		0759	16298
16	0937	1112	0950	2+	5	5		6	3		3		0937	16298
16	1545	1715	1605	1	5	2			1		10		NF	
16	1738	1815	1740	1-	1						1		1740	16298
16	1952	2112	1959	1	5	3		2			12		1950	16279
16	2345	0008	2355	1-	1						1		2346E	16298
16	2347	0104	0010	1	3	1			1				2347	16298
17	0514	0716D	0538	1-	1				1				*	
17	0721	0748	0725	1-	1				1				0725	16298
17	1037	1130	1047	1-	5	2		5	2		3		1034	16298
17	1547	1706	1600U	1-	1						1		1543	16298
17	1643	1655D	1655	1-	5	2			1		9		1641	16298
17	1815	1838	1821	1-	1						1		1816	16298
18	0023	0118	0034	1-	1				1				0022	16298
18	0746	1002	0809	2	5	2		3	2		2		0748	16312
18	1439	1638	1454	1+	5	5		5	2		12		1432	16298
18	1921	2008	1931	1-	5	2				1	3		1922E	16298
18	2307	2352	2316	1-	5				2		1		2318E	16298
19	0357	0547	0408	2+	5	2			2				0400	16279
19	0643	0946	0712	1	5	1		1	3		1		0647	16298
19	0707	0730	0714	1-	5	2		1	1				0707	16298
19	1108	1145	1116	1-	1				1		1		1100	16300
19	1210	1315	1231	1	5	3		4	2		2		NF	
19	1356	1520	1406	2	5	6		7	2	1	9		1353E	16279
19	1423	1550	1435	1-	3				1	1			1420E	16298
19	1604	1655	1613	1	5	1		1	1		4		1602	16298
19	1740	1830	1750	1-	5	2		1	1	1	8		1740	16298
19	1825	1850D	1850	1-	5	1			1		5		1828	16298
19	1916	1940D	1940	1-	1				1		1		1916	16298
19	1936	2014	1943	1-	5	1				1	3		1937E	16298
19	2024	2133	2100	1+	3	1					4		2025	16298
19	2043	2153	2103	1	5	1			2	1	6		2039	16298
19	2202	2400D	2207	1-	1						1		2206	16298
19	2258	0056	2307	3	5	4			2	1	5		2256	16298
20	0341	0358	0347	1-	1				1				*	
20	0456	0609	0502	1-	1				1				*	
20	0800	0844	0806	1	5	2		3	3		1		0759	16298
20	0837E	1007	0853	2	5			2	2		1		0839	16298
20	1147	1245	1204	1-	5	2		3	2		1		*	
20	1258	1500	1315	1-	3						2		1254	16298
20	1325	1445	1354	1-	5	4		5	2		6		1340E	16298
20	1456	1545D	1545	1-	1				1		1		1459	16298
20	1532	1603	1542	1-	3				1		2		1534	16298
20	1632	1805	1653	1-	3				1		2		1633	16310
20	1815	1830D	1830	1-	1				1		1		1819	16298
20	1837	2053	1910	1-	1				1				1834	16298
20	1858	1b12	1908	1+	5	3			1	1	10		1856	16298
20	2212	2246D	2224	1-	1				1				2214	16279
21	0321E	0350	0324	1-	1				1				*	
21	0358	0429D	0405	1-	1				1				*	
21	0430	0510	0441	1-	3				2				*	
21	1123	1221	1136	1-	3			1	1		1		*	
21	1159	1320	1220	1-	1				1		1		1212	16298
21	1341	1400	1344	1-	5	1		3	2		4		1338	16298
21	1400	1450	1408	1-	3				1		2		1359	16298
21	1500	1535D	1535	1-	5			3	1		2		1457	16398
21	1545	1640	1553	1-	5	1			1		4		1544	16298
21	2121	2145	2125	1-	3	1			1				2120	16310
21	2350	0027	0353	1+	5	2		1	1		4		2340	16298
22	0105E	0154	0116	1+	5	1			1		1		0106	16298
22	0120	0200		1-	1	1							0123E	16298
22	0151	0158D	0158	1-	1						1		0151	16298
22	0212	0450	0219	1	5	1		1	2		1		NF	
22	0233E	0416	0240	2	3	1			1		1		0238E	16298
22	0735	0855	0800	1-	3			2					0738	16298
22	0821	0905	0828	1-	5	1		1	2		1		0822	16298
22	1742	1815	1745	1-	3						2		1742	16298
23	0132	0350	0138	1-	3				2				0134	16298
23	0203E	0320	0211	1+	5	1		1	1		1		0202E	16298
23	0616	0730	0625	1	5	2		2	3				0618	16298
23	1023	1030D	1030	1-	5	2		2	3		2		1023	16298
23	1158	1220	1203	1-	5	1		4	2		2		1205E	16298
23	1403	1408D	1408	1-	1						1		1402	16298
23	1634	1728	1646	1-	5	2			1		11		1630	16305
23	1951	2015	1955	1-	1						1		1946	16314
23	2241	2317	2252	1-	3				1		1		2239	16319

SUDDEN IONOSPHERIC DISTURBANCES

SEPTEMBER 1979

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
24	0507	0634	0514	1+	5	1		1	2				*	
24	1745	1840	1903	1-	5	2			1	1	12		1743	16298
25	0108	0200	0111	1-	1						1		*	
25	0406	0455	0417	1-	5	1			2				*	
25	0821	0915	0830	1-	5			1	2		1		0822	16298
25	1109	1228	1119	1+	5	3		3	2		1		1106	16298
25	2000	2010	2001	1-	3	1					1		1953	16329
25	2033	2124	2044	1-	5	3			1		8		2036	16298
25	2131	2152	2138	1-	1				1				2130	16307
26	1108	1120D	1120	1-	1				1		1		1108	16310
26	1145	1205D	1205	1-	1				1		1		1148	16298
26	1317	1412	1324	1-	1				1		1		1322E	16324
26	1344	1422	1348	1-	1			1					1346	16315
27	0215	0336	0226	1-	3				2				0218	16298
27	0306E	0337	0318	1-	1				1				0303	16310
27	0722	0757	0730	1-	1				1				0720	16332
27	1507	1615	1538	1-	3			3					1505	16315
27	2141	2200	2142	1-	1				1				2142	16315
28	0802	0925	0811	1-	3			2					0758	16330
28	1330	1430	1402	1-	1				1		1		1323	16315
28	1525	1633	1539	1-	3			2					1520	16324
28	2146	2233	2152	1-	1				1				*	
29	0041E	0124	0041	1-	1				1				*	
29	0353	0404	0356	1-	1				1				*	
29	0413	0451	0421	1-	3				2				*	
29	0502	0525	0514	1-	1				1				*	
29	0725	0753	0739	1-	3			3					0728	16298
29	0951	1005	0956	1-	3			3	1				0940	16307
29	1130	1200	1144	1-	1				1		1		*	
29	1213	1258	1240	1-	1				1		1		*	
30	0053	0130	0058	1-	1						1		*	
30	0436	0455	0444	1-	1				1				*	
30	0615	0754	0621	2	5	3		2	2				0614	16315
30	1042	1108	1055	1-	5	1		1	2		1		1040	16305
30	1106	1310	1125	1	5	2		4	3		3		HF	
30	1513	1605	1530	1-	1				1		1		1510	16315

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) AND STATION
01-30	0000-2400 TM
01-04	0000-2400 TM-CF
02	0745-0910 UM (13 kHz)
04	1000-1345 UM (16 kHz)
06	0000-2400 TM-CF
09	0000-2400 TM-CF
11	1005-1400 UM (16 kHz)
24-25	2200-1200 UM (10, 13, 16 kHz)
26	0000-2400 TM-CF
29-30	0640-2400 KA
30	0000-2400 TM-CF

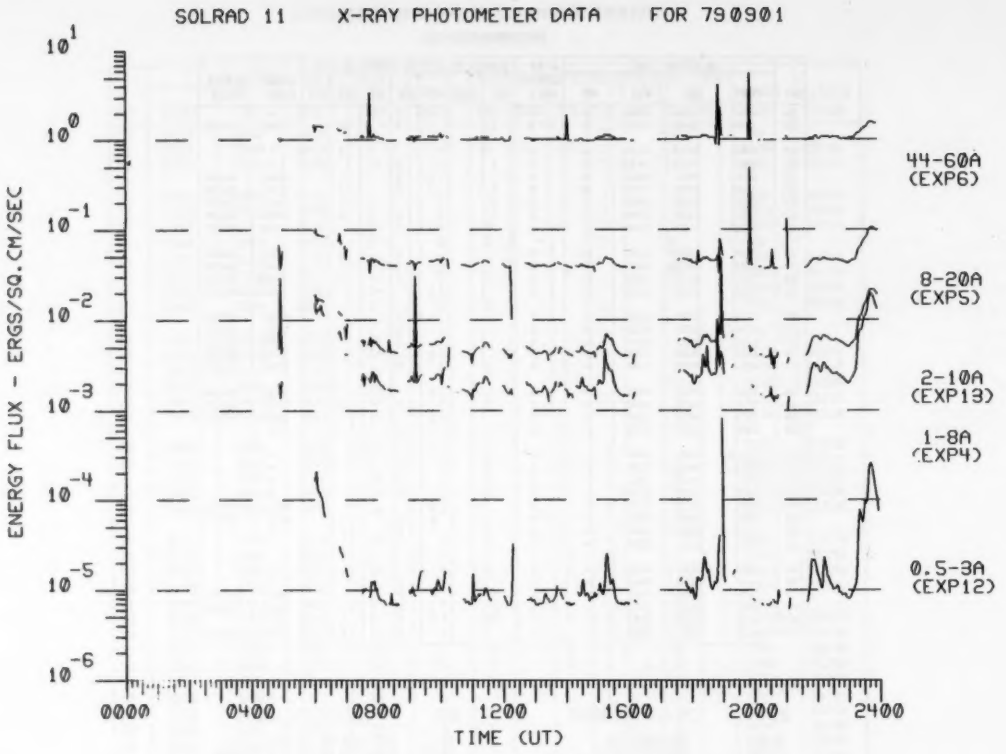
STATIONS REPORTING FOR SEPTEMBER 1979

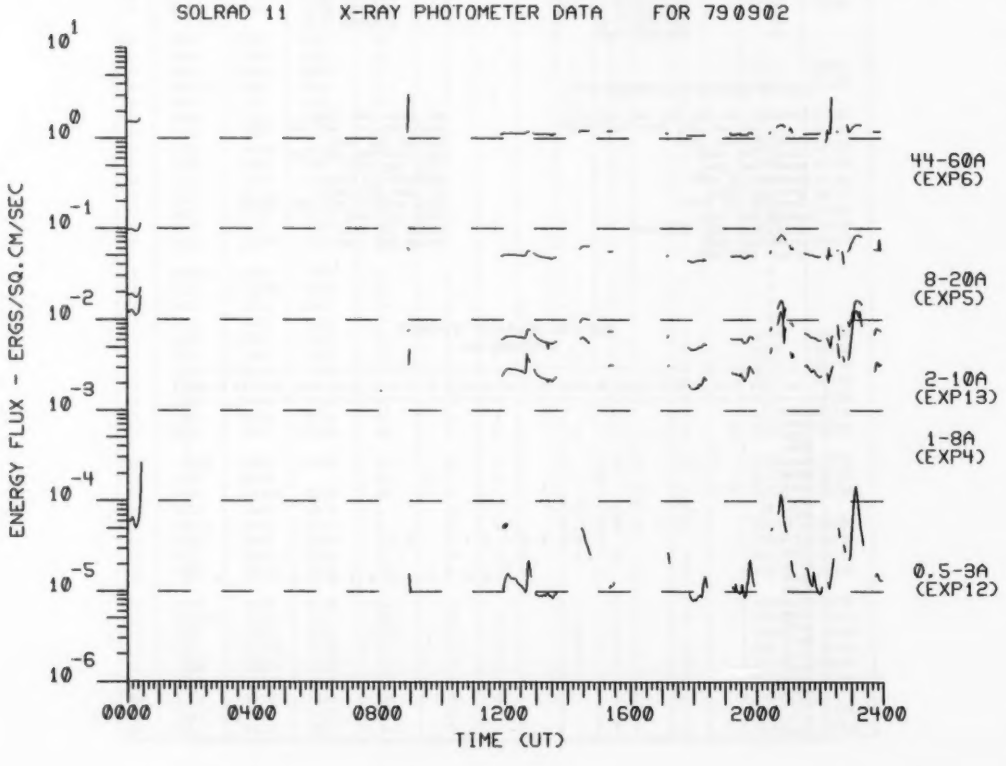
AAVSO (A1, A5, A19, A21, A26, A28, A31, A34, A46, A48) (SES) (A31) (SWF)
ELLENSBURG (EB) (SES)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
JULIUSRUH (JH) (SWF)
KASUAGE (KA) (SPA)
KUHLUNGSBORN (KU) (SEA, SPA)
LUCHOW (LW) (SWF)
MC MATH (MC) (SWF)
NEW JERSEY (NJ) (SES)
PANSKA VES (PU) (SWF, SEA, SES)
PRESTON (LO) (SEA)
SAO PAULO (UQ) (SES, SPA)
SOFIA (SF) (SES)
SOMERTON (SO) (SWF)
ST CLOUD (SC) (SES)
TABLE MOUNTAIN (TM) (SPA, LF-SPA)
UPICE (UI) (SEA)
VSETIN (VS) (SEA)
ZILINA (ZL) (SEA)

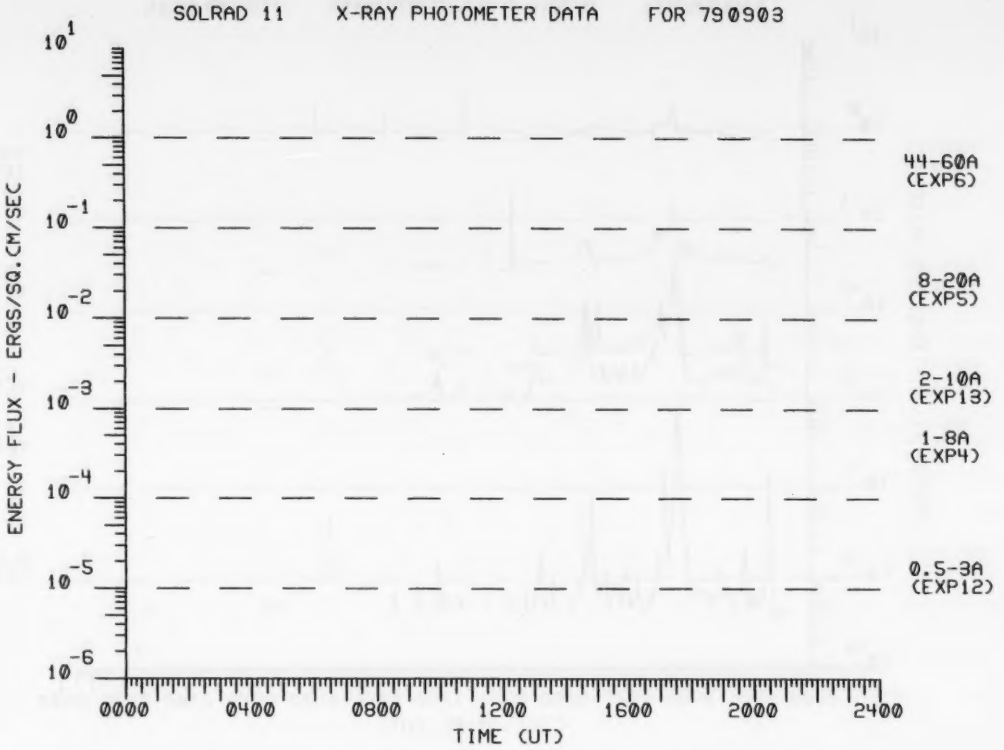
SIDs BY McMATH REGION

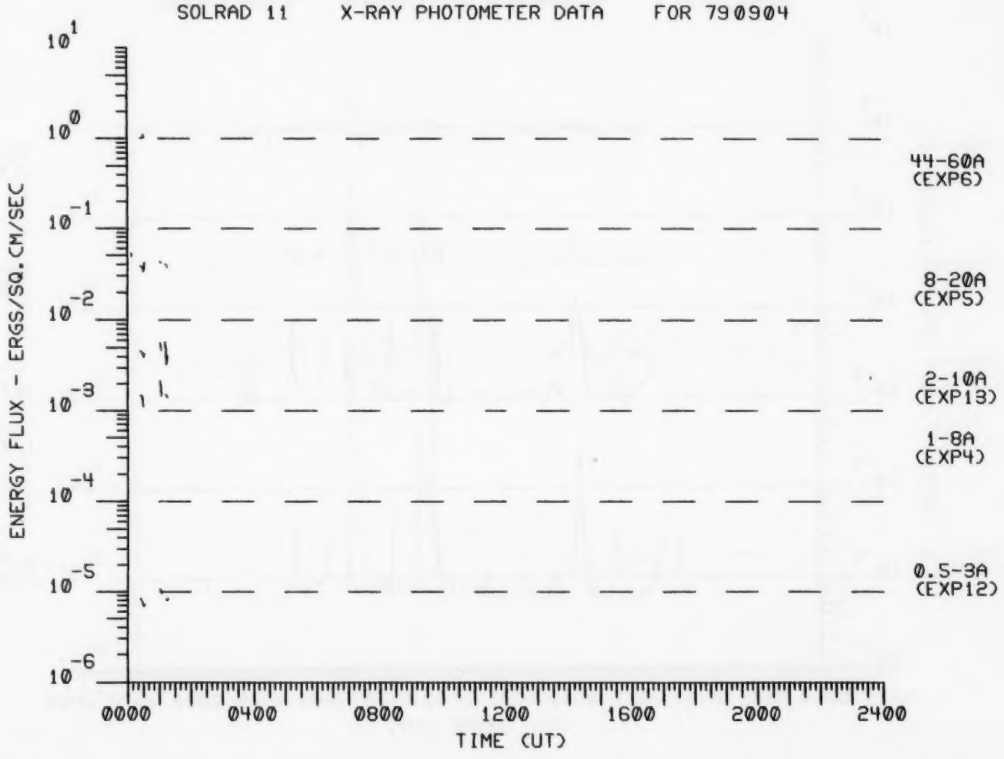
SEPTEMBER 1979

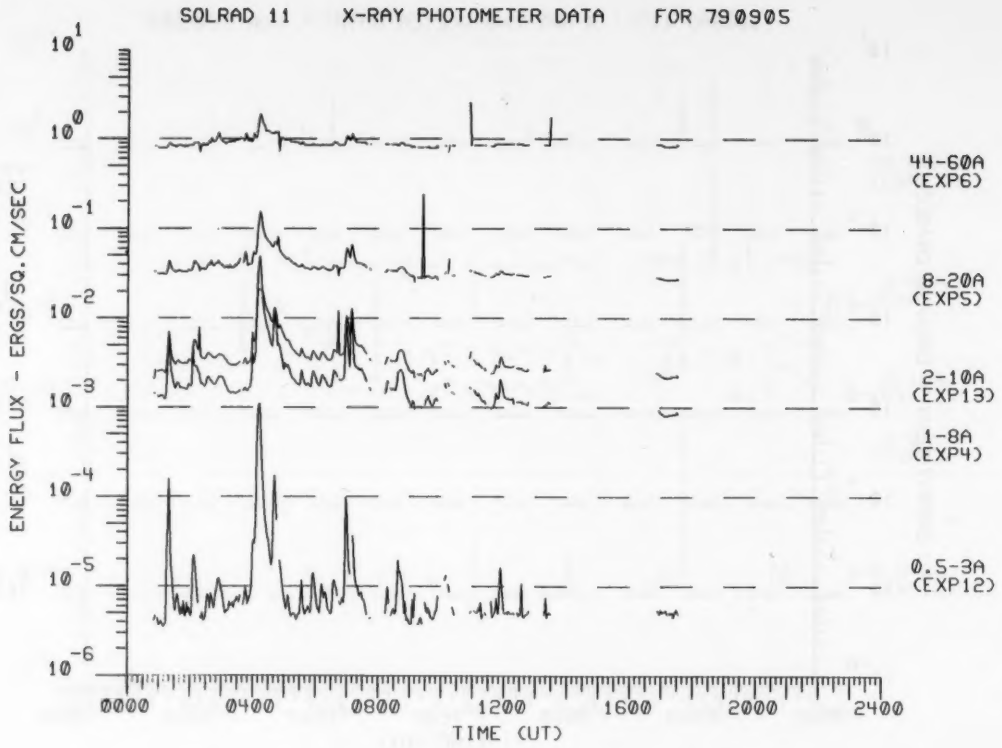
REGION \ DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
16241		1																												
16252		1				2																								
16260			1																											
16263			1	1			1	1	1																					
16264	2			3					1																					
16267	1	1	1			3						1																		
16269					2		1			2	1																			
16271				1				1																						
16275					1	1	1	1	2	1	1																			
16279									1	1	5	2	5	6	1	1			2	1										
16285													1																	
16296														1																
16298															1	6	5	4	12	9	6	7	6	1	3	1	1		1	
16300																			1											
16305																							1							1
16307																									1				1	
16310																				1	1					1	1			
16312																		1												
16314																							1							
16315																										1	2	1		1
16319																							1							
16324																										1		1		
16329																									1					
16330																												1		
16332																											1			


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790901
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790902
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790903
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790904
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790905
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
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8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
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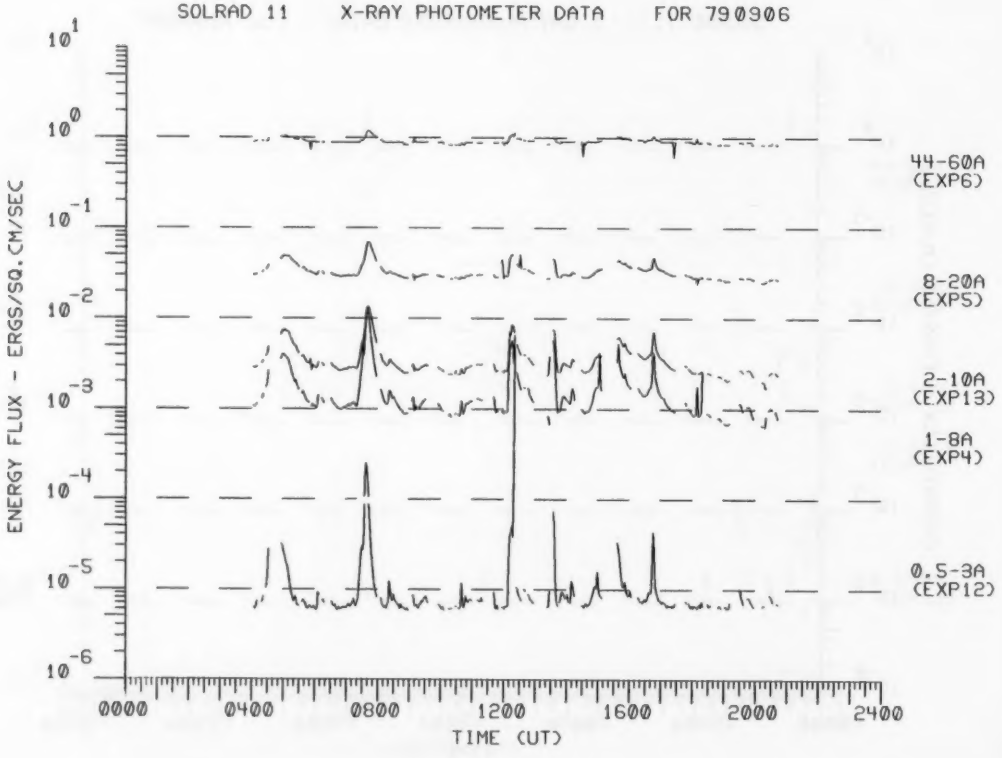
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790906
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-5}
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8-20A (EXP5)
2-10A (EXP13)
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0.5-3A (EXP12)
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2000
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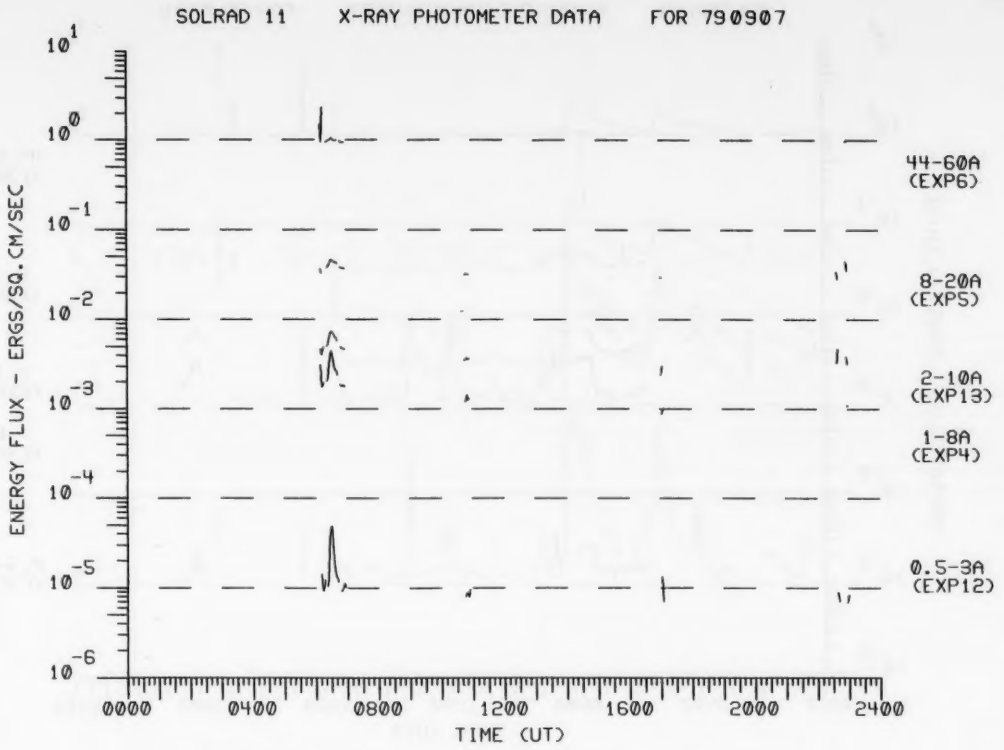
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790907
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-5}
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44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
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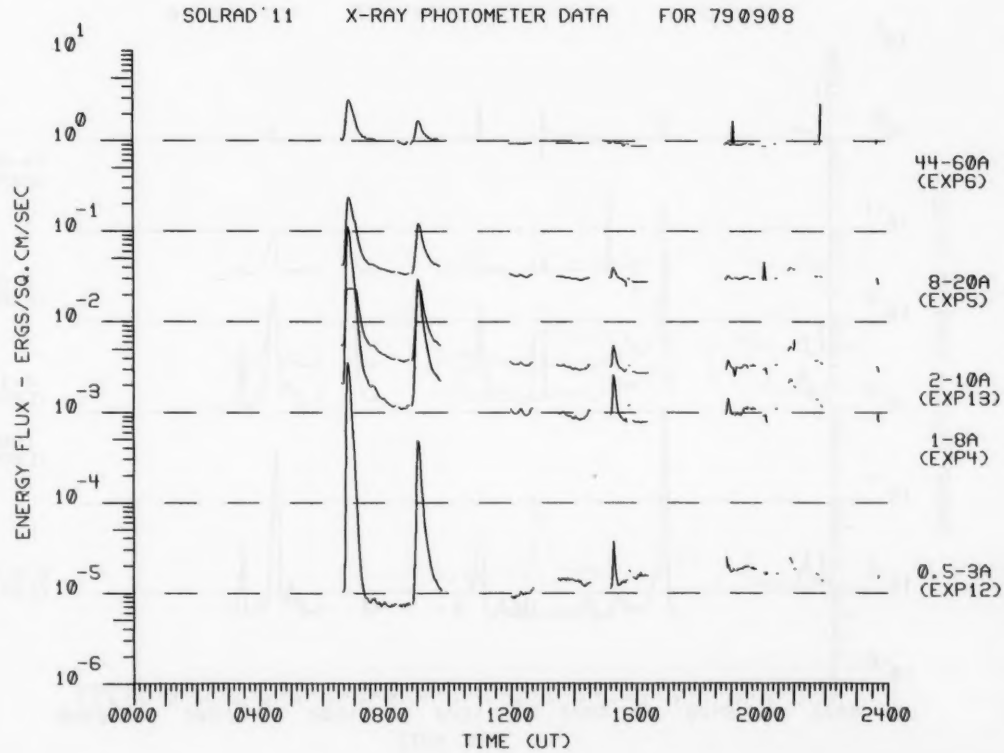
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790908
ENERGY FLUX - ERGS/SQ.CM/SEC
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44-60A (EXP6)
8-20A (EXP5)
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1200
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2000
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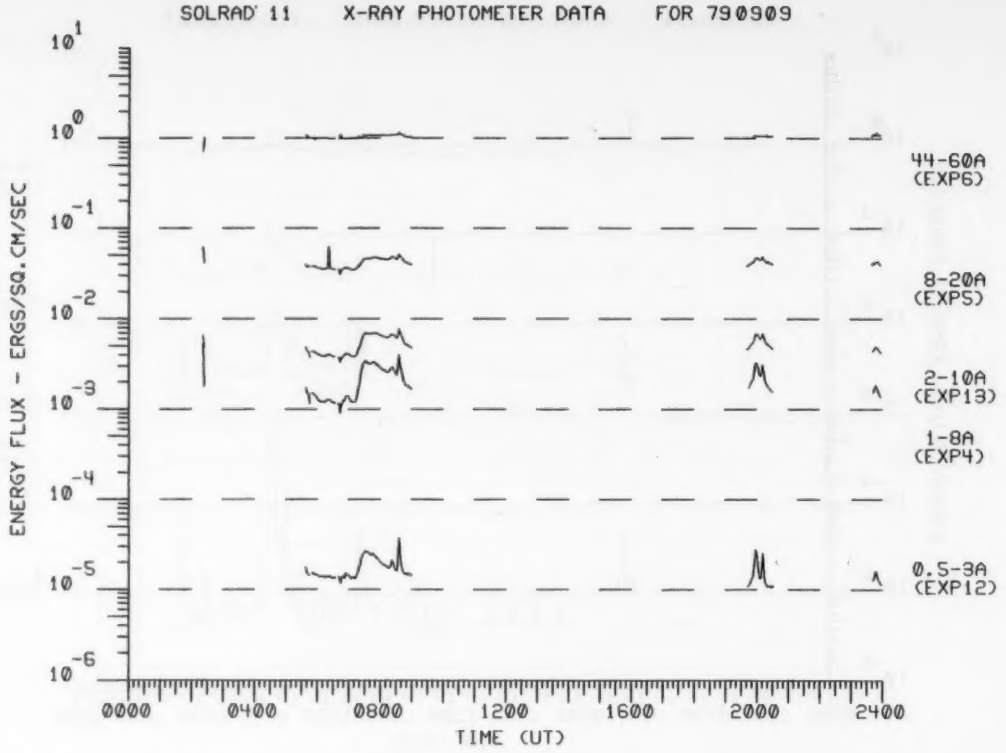
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790909
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-5}
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44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
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0000
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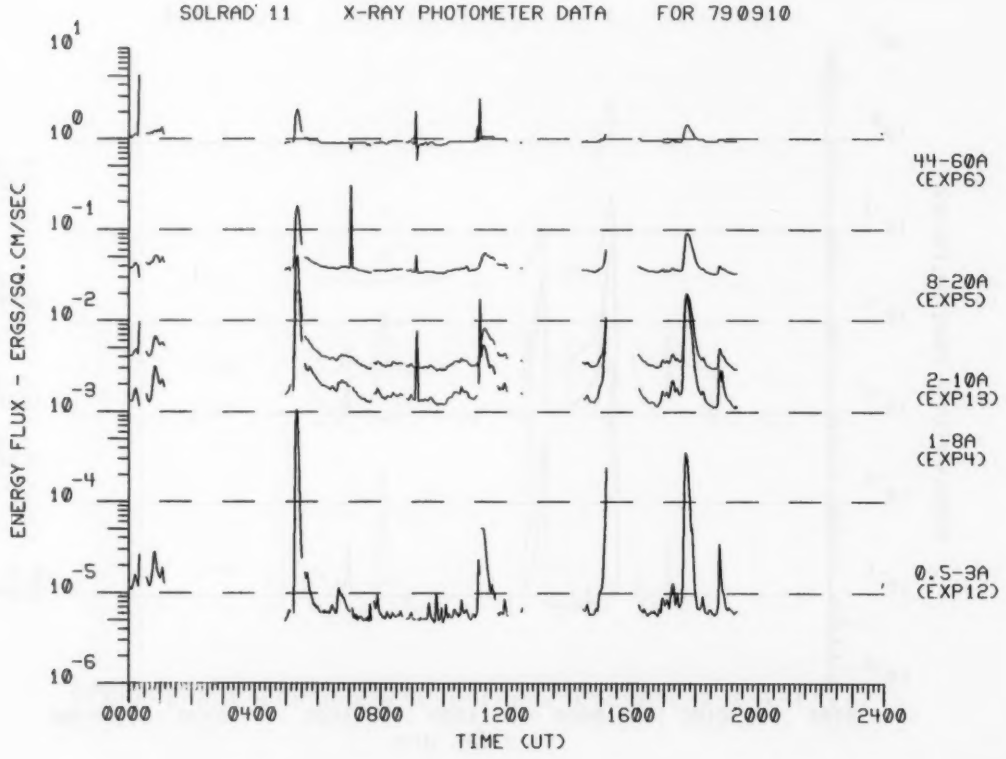
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790910
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-1}
10^{-2}
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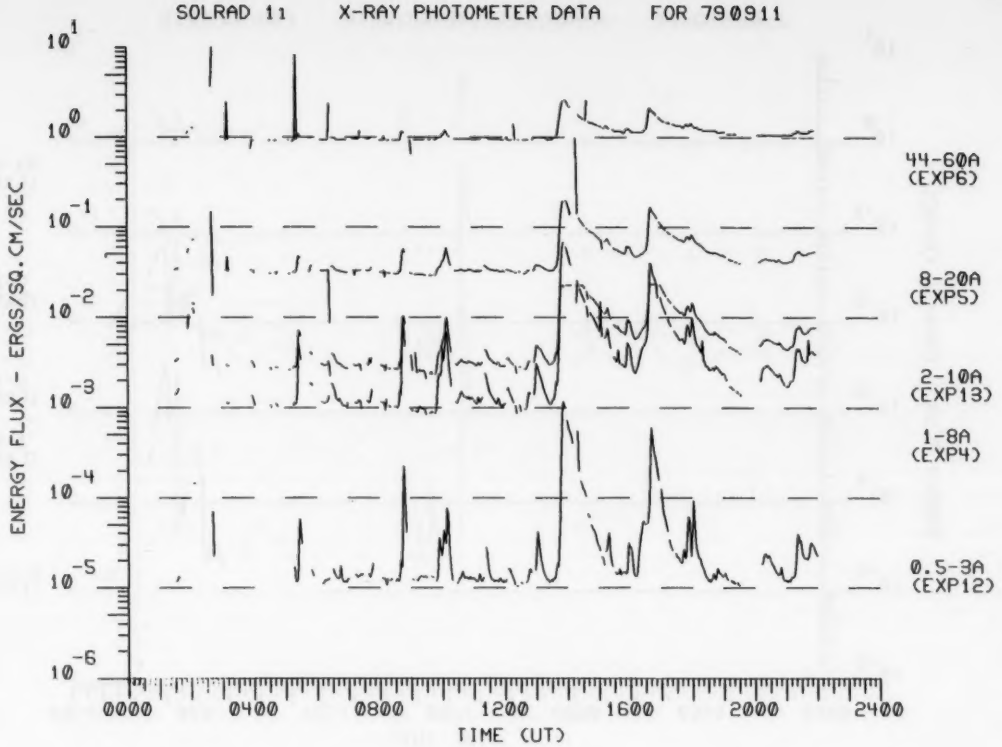
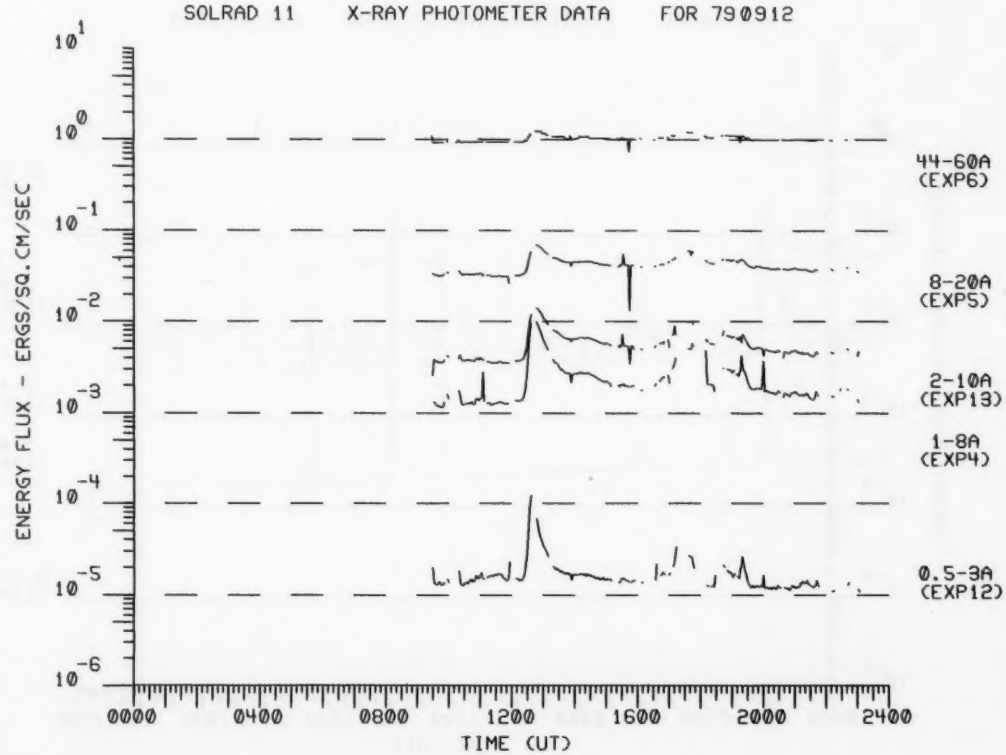
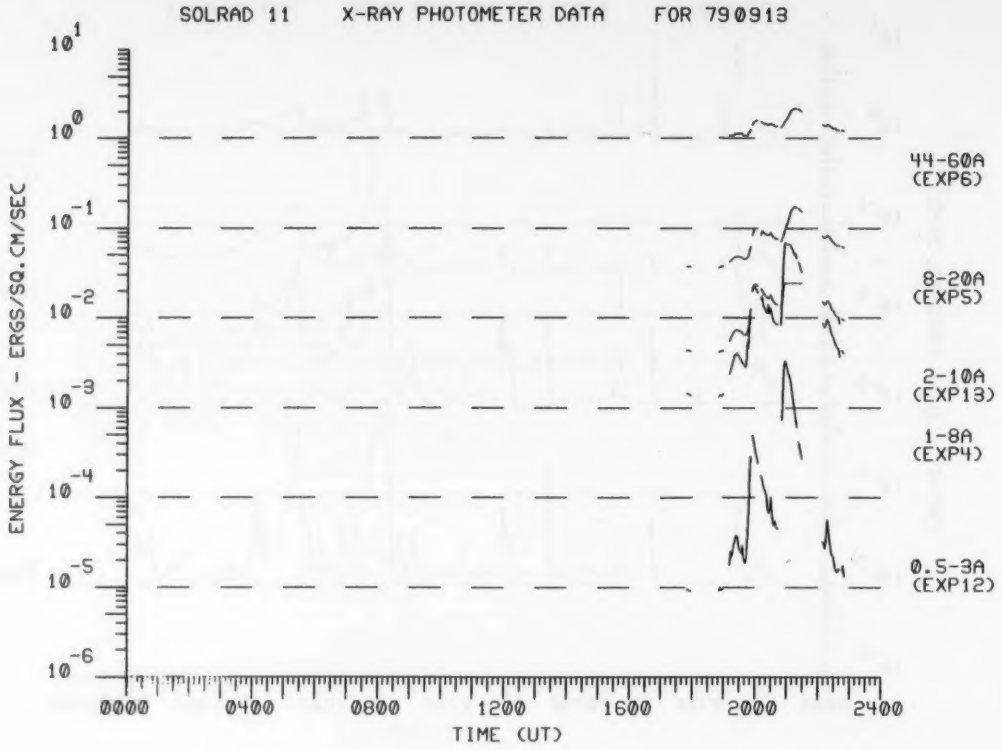
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790911



SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790912




SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790913
ENERGY FLUX - ERGS/SQ.CM/SEC
10^{1}
10^{0}
10^{-1}
10^{-2}
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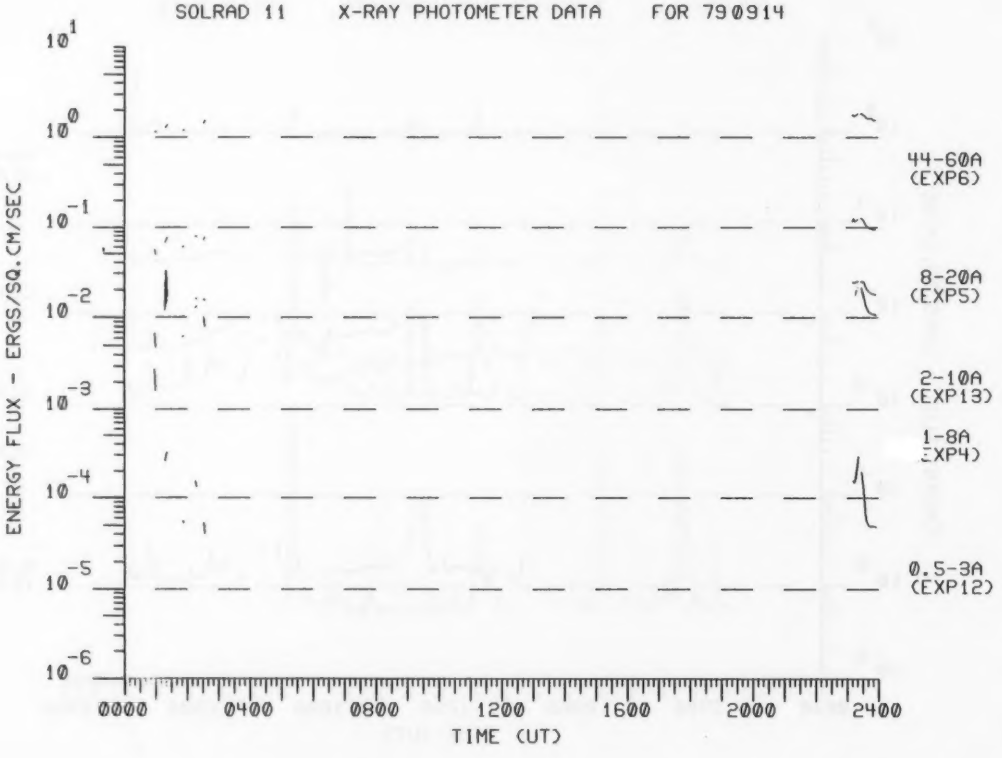
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790914
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
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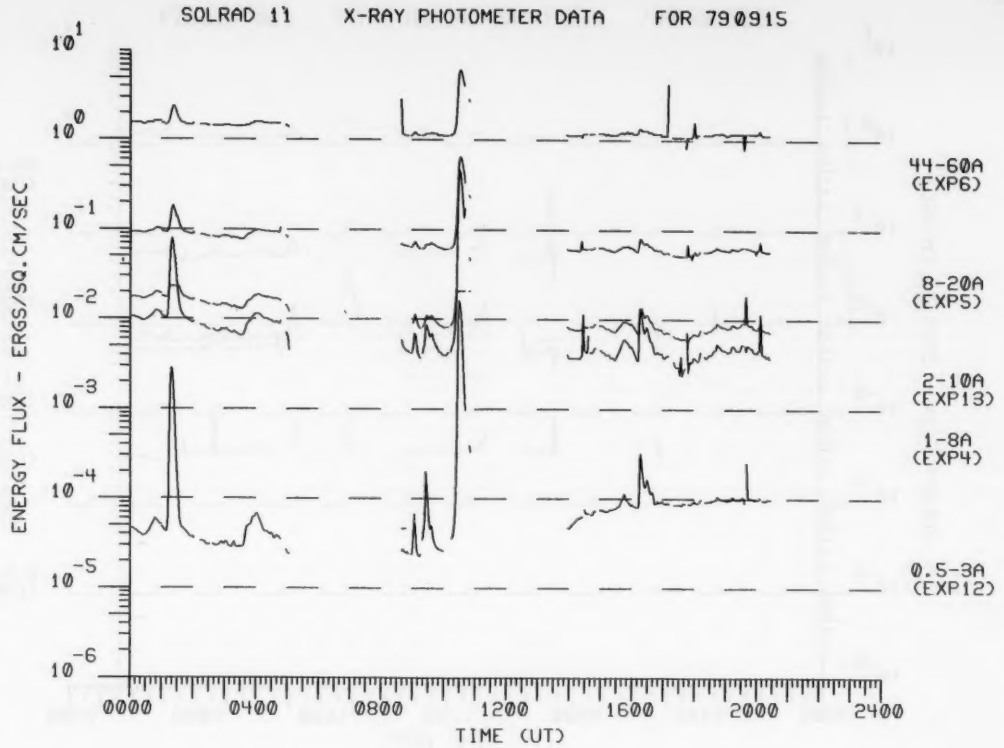
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790915
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
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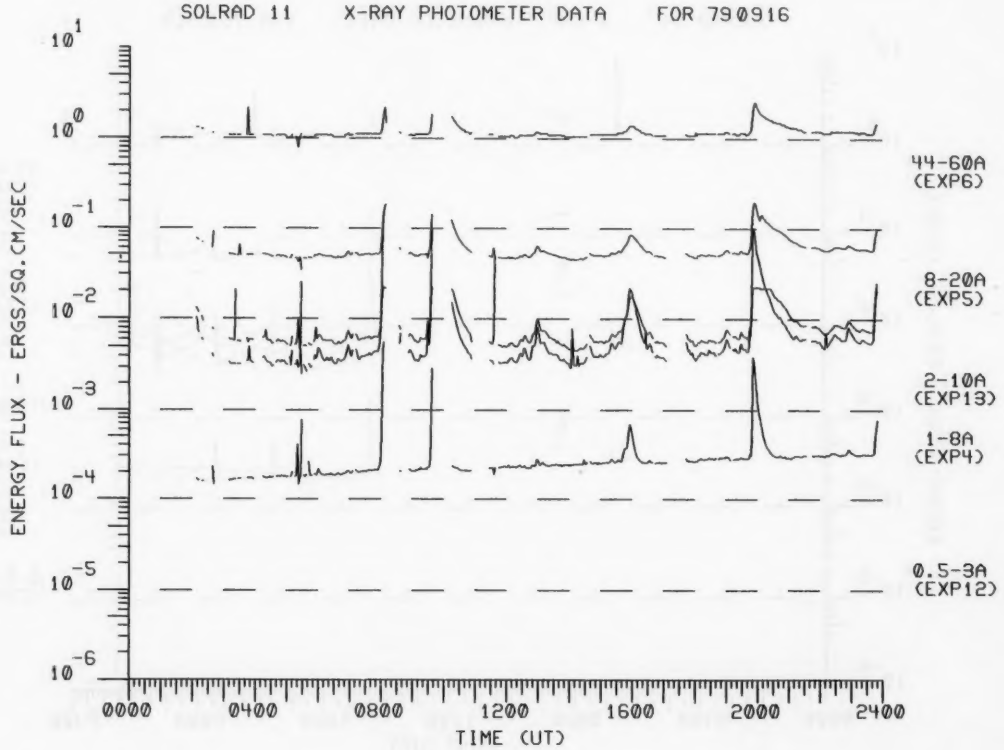
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790916
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-1}
10^{-2}
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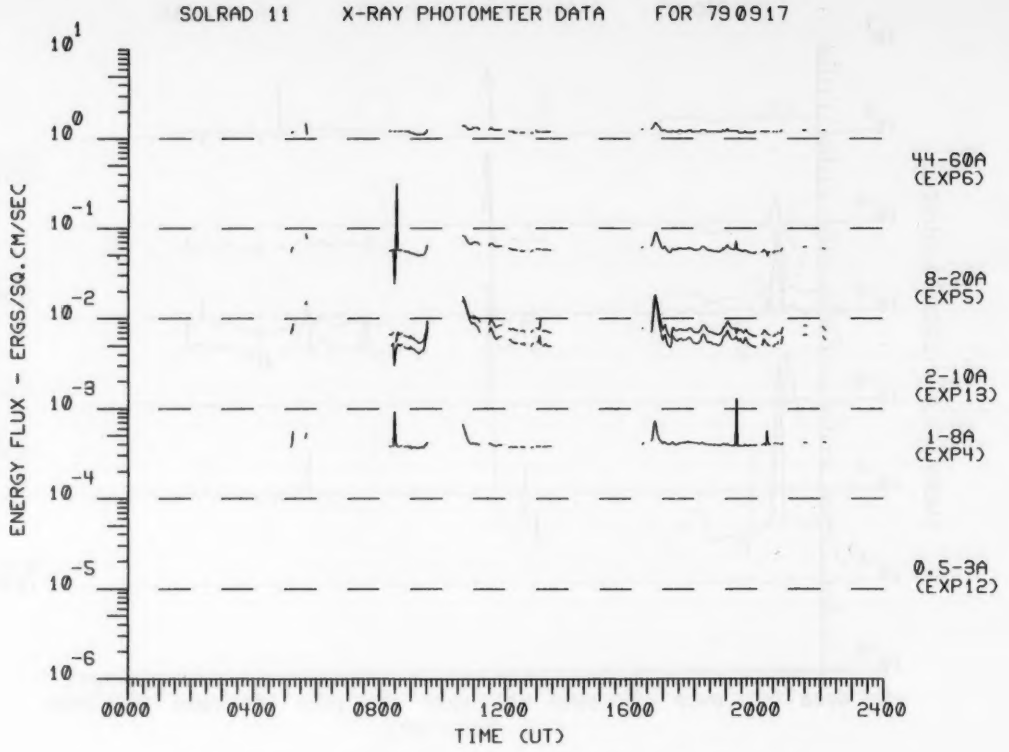
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790917
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
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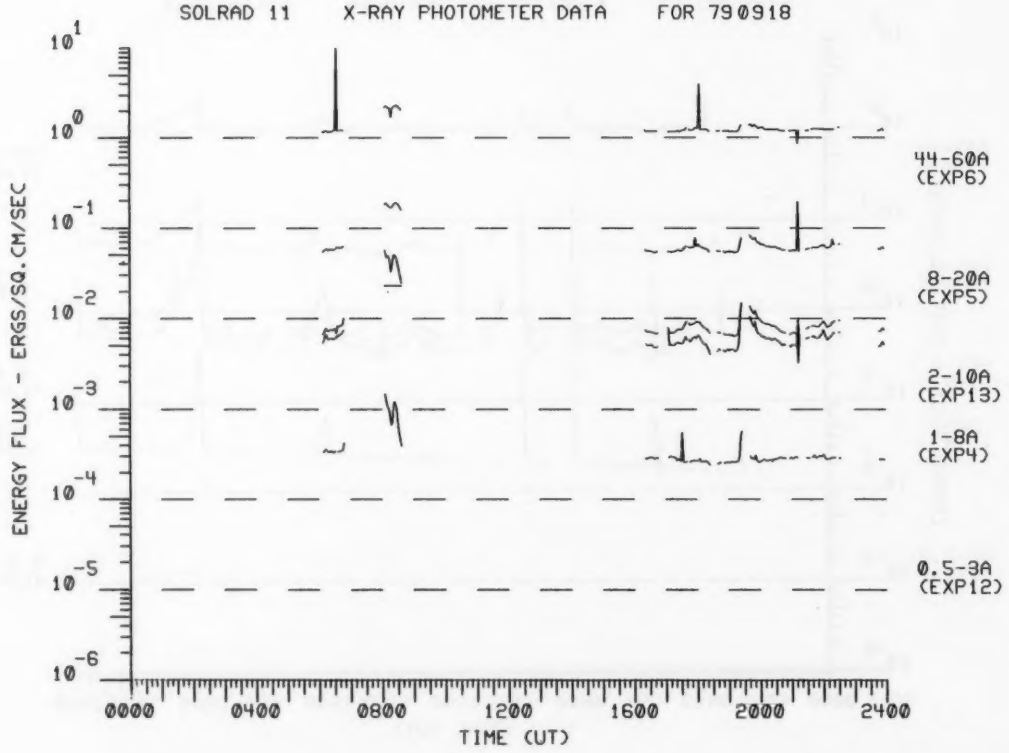
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790918
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-1}
10^{-2}
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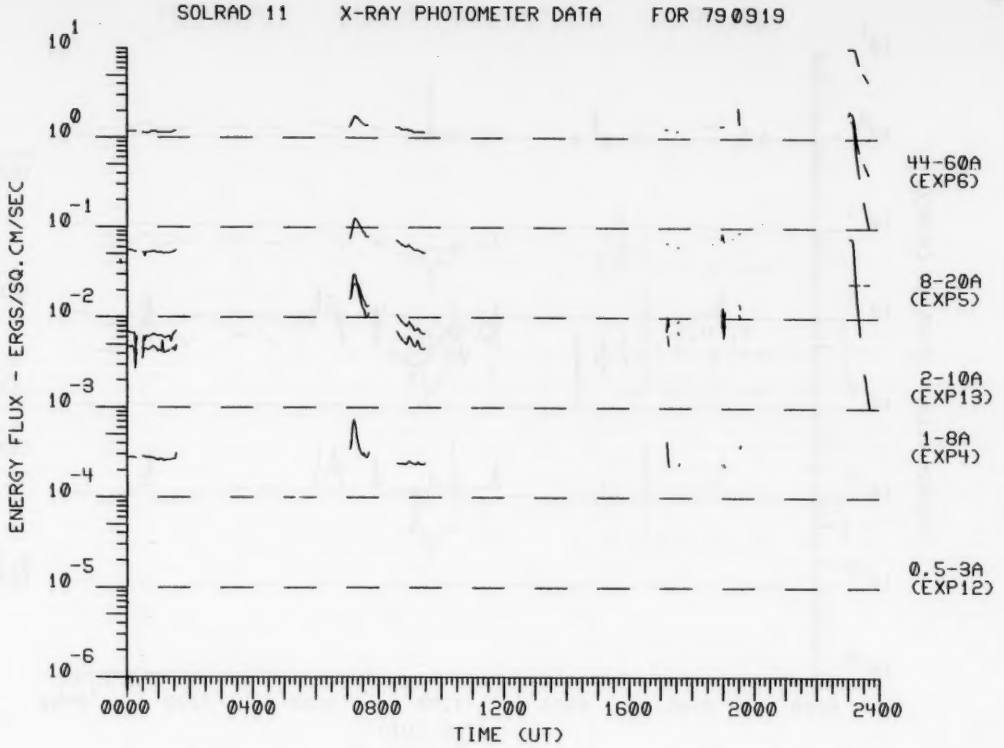
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790919
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-1}
10^{-2}
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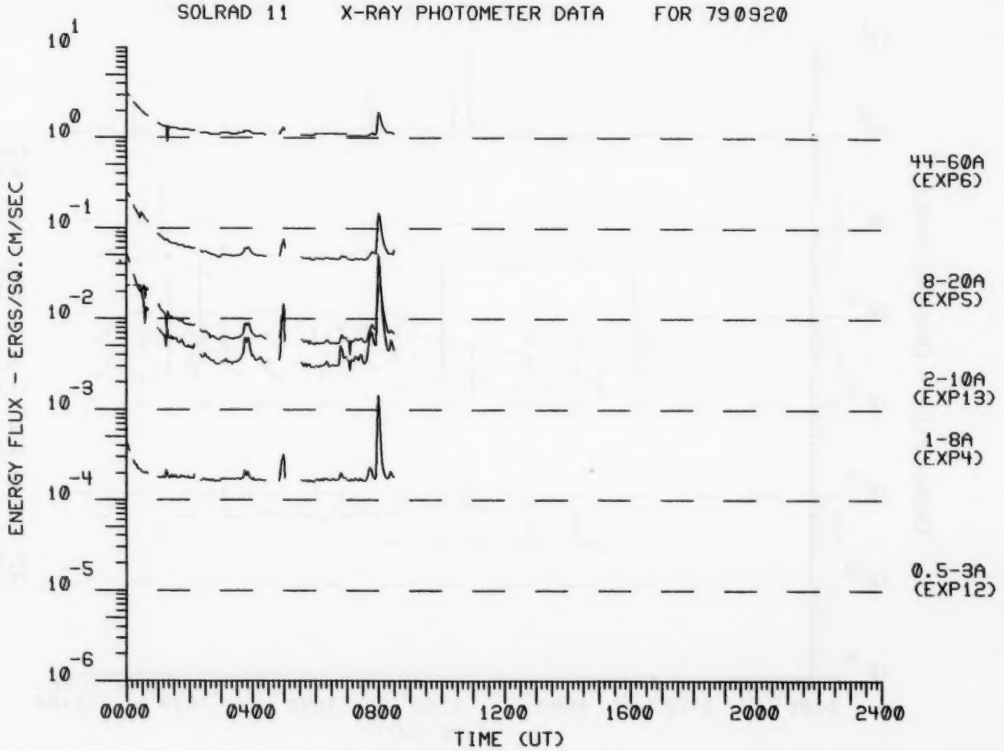
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790920
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-1}
10^{-2}
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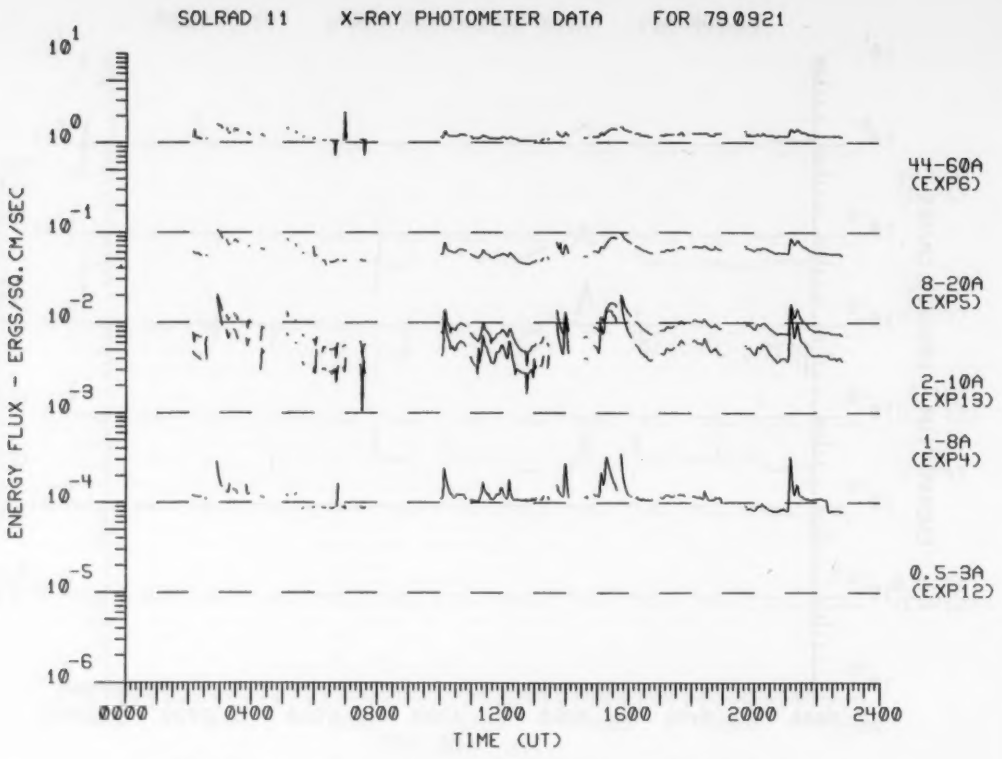
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790921
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-1}
10^{-2}
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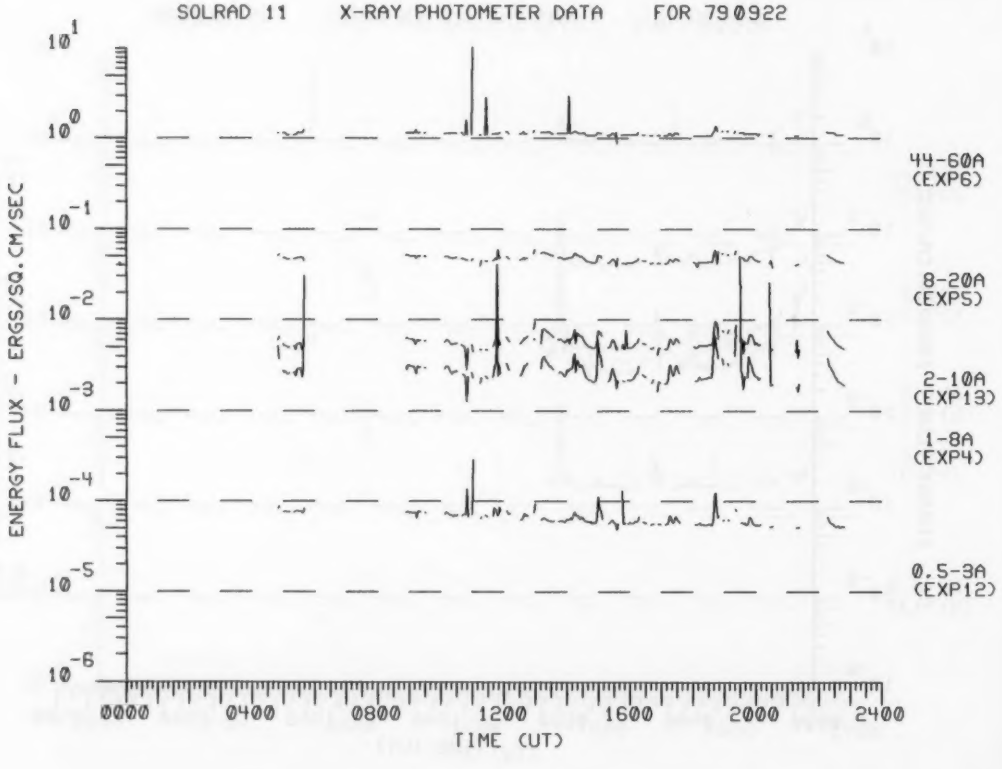
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790922
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-1}
10^{-2}
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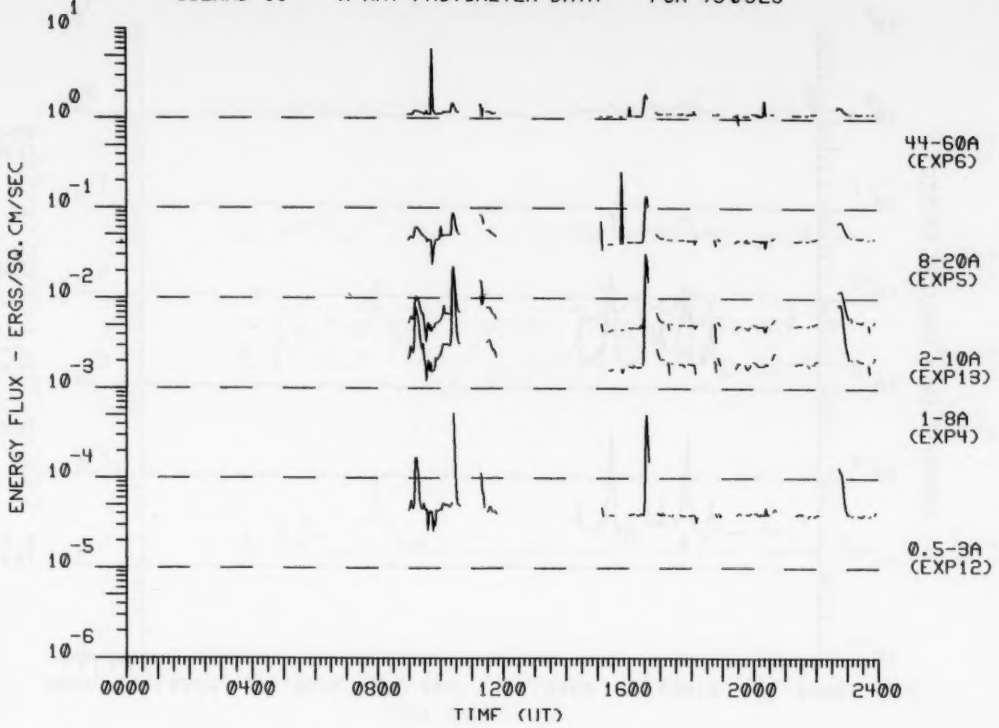
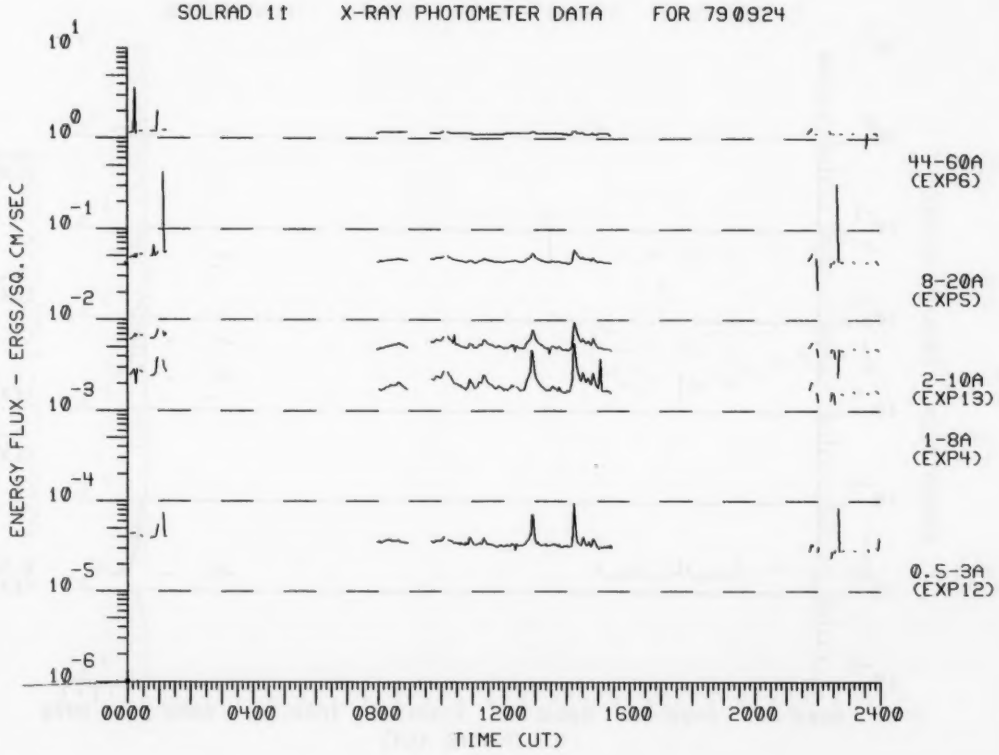
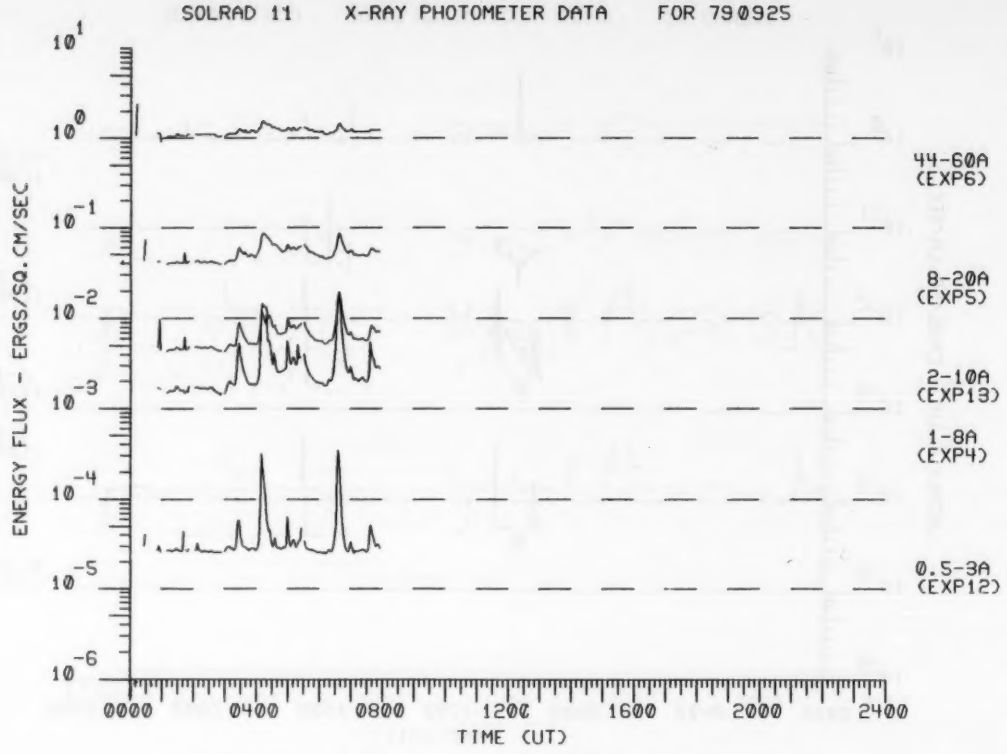
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790923



SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790924




SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790925
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
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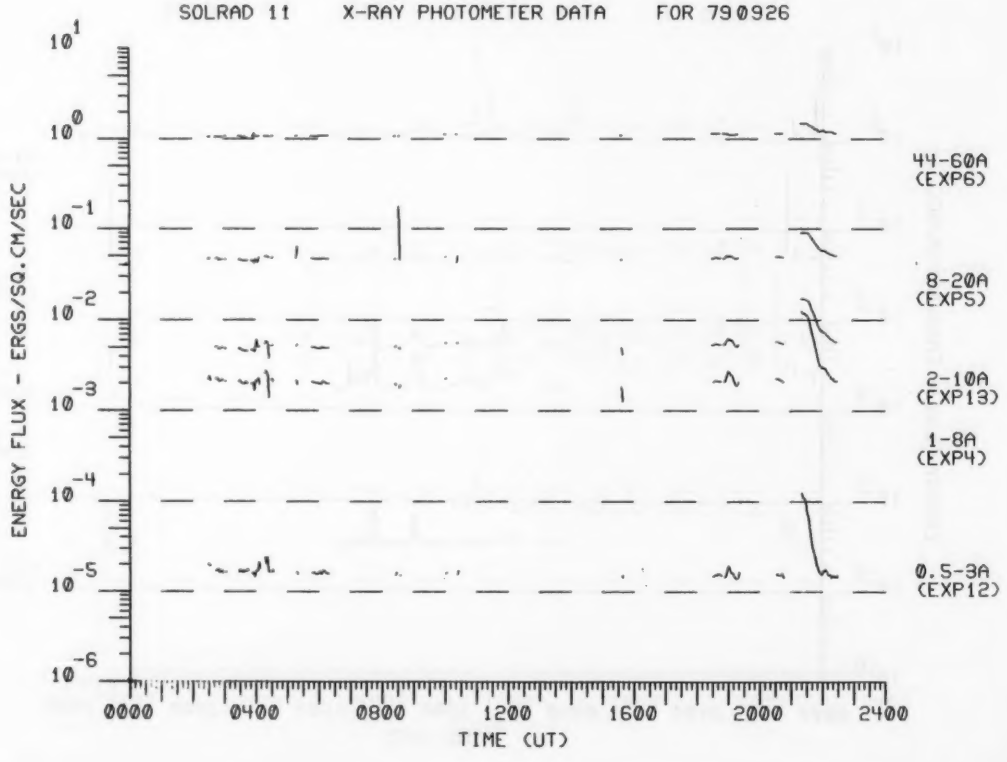
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790926
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-1}
10^{-2}
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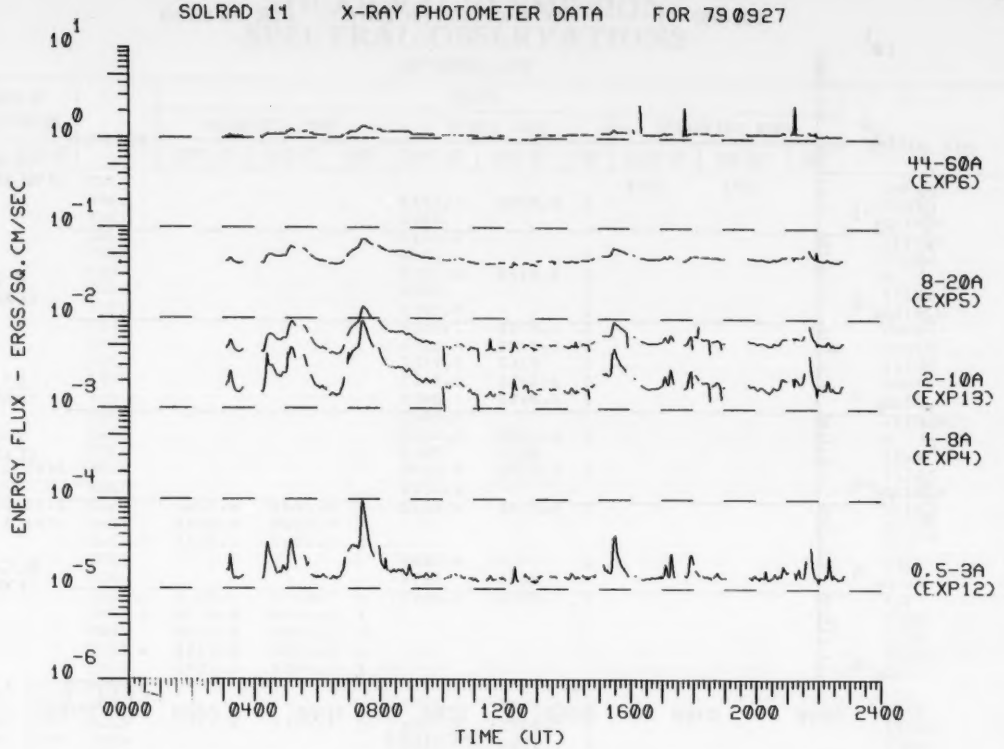
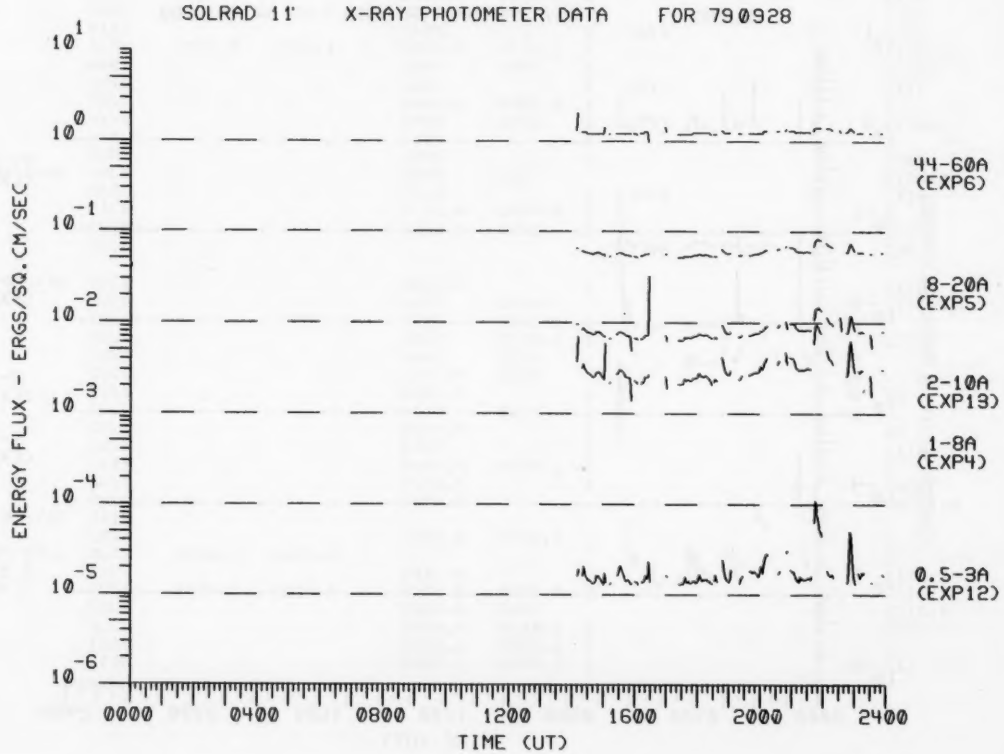
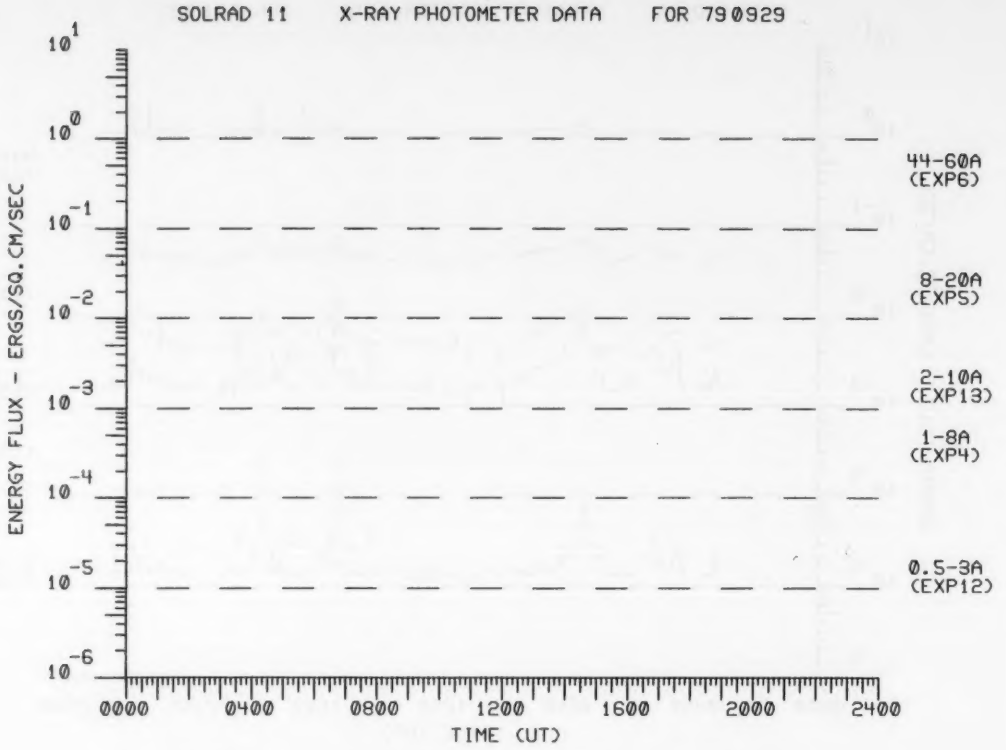
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790927



SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790928




SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790929
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
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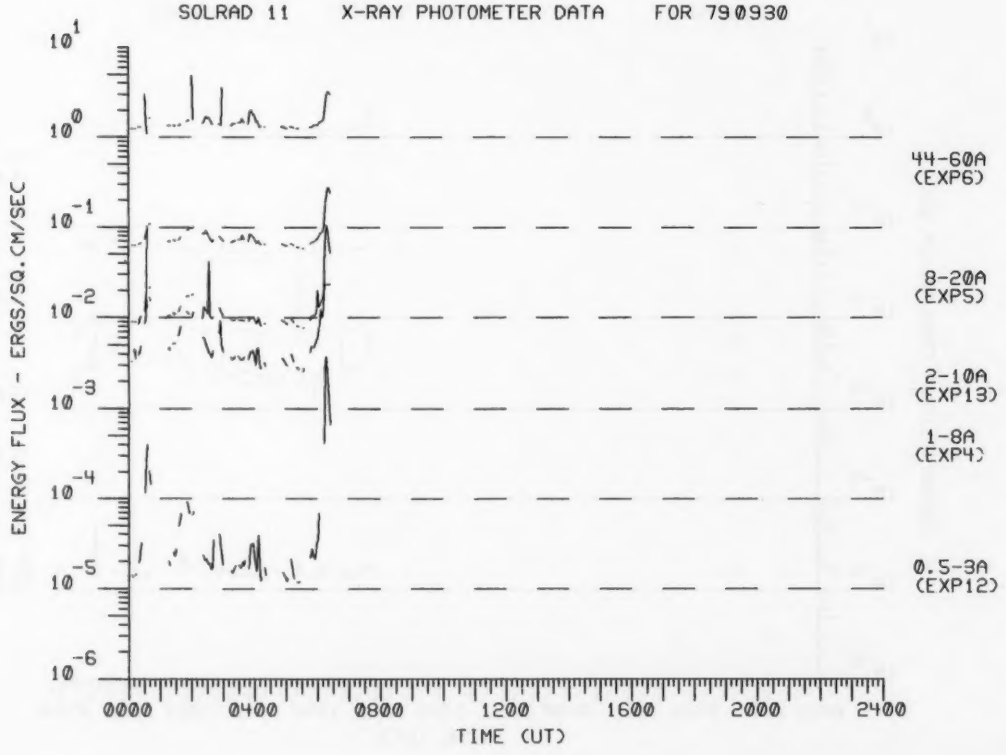
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790930
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-1}
10^{-2}
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10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1979

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
01	0000	0732	CULG							0000	0435		SWF,W
			PALE				0057.4	0059.8	2				CONT
			CULG				0106						IIIB,W
			CULG				0158.5						IIIB,W
			CULG				0159		1				IIIB
			LEAR				0200.0	0410.0	1				B
			CULG				0200		1				IIIB
			CULG				0205.5		1				IIIB,U
			LEAR				0250.1	0253.1	2				CONT
			LEAR				0316.4	0317.3	2				CONT
			CULG				0317.5	0319	2				IIIGG
			LEAR				0342.5	0346.6	2				CONT
			CULG				0345	0346.5	1				IIIG
			CULG				0409.5						IIIB,W
			LEAR				0410.0	1016.0	2				B
			CULG				0505	0520					IN,W
	0501	0841	WEIS				0513.7	0513.9	1				IIIG
			CULG				0550.5						IIIB,W
	0533	0910	BLEN	0551.6	0600.9	2	0551.6	0551.8	2				IIIG
	0515	1730	DWIN	0600.3	0600.7	1							IIIG
			BLEN	0628.4	0628.8	2							III
			CULG				0628.5		1				IIIB
			CULG				0711	0732					IS,W
			BLEN	0722.7	0733.7	1	0722.7	0723.7	1				III
			DWIN	0732.9	0734.1	1							IIIG
			DWIN	0819.5	0819.6	2							IIIG
			BLEN	0819.5	0822.9	1							IIIGG
			DWIN	0822.1	0824.0	1							IIIG
	1003	1214	WEIS										
	1223	1400	WEIS				1315.6	1320.7	2				IIIG
	1017	1715	BLEN	1317.4	1320.7	2	1315.0	1320.7	2				IIIGG
	1302	2245	HARV				1317	1321	2				IIIGG
			WEIS				1328.6	1328.9	2				IIIB
			DWIN	1356.6	1356.8	1							IIIG
			HARV				1459		2	1459		2	IIIG
			BLEN	1524.9	1531.0	3	1524.9	1531.1	3				IIIGG,V
			HARV				1525	1531	3				IIIGG
			HARV				1611		1	1611		2	IIIG
			PALE				1645.0	2332.0	1				B
			HARV				1758	1801	2	1759		1	IIIGG,U
			HARV				1825		1				I
			HARV				1831		1				IIIG
	2033	2400	CULG				2045	2327					IIIN,W
			HARV				2048		1	2048		2	IIIG
			PALE				2214.0	0426.0	1				B
			CULG				2250.5	2252	2				IIIGG
			CULG							2300	2400	1	SWF
02	0000	0732	CULG				0015.5		1				IIIB
			CULG				0024	0025.5					IIIG,V,W
			CULG				0027	0041.5	1			IV	
			CULG				0033	0035.5	1				IIIG
			CULG				0040	0047				II	W
			CULG				0041.5	0100				IV,	W
			CULG				0042.5		1				DP
			CULG				0047	0055	1			II	
			CULG				0050.5		1				DP
			CULG				0312		1				IIIB
			LEAR				0420.9	0423.1	2				V
			CULG				0449.5		1				UNCLF
			CULG				0458.5						UNCLF,W
	0515	1700	DWIN										
			LEAR				0539.6	0540.1	2				V
	0534	0910	BLEN	0552.9	0553.5	1							I
			CULG				0554.5						IIIB,W
			BLEN	0609.6	0610.8	2	0609.6	0610.3	2				IIIG
			CULG				0610.5	0611					IIIG,W
			BLEN				0620.4	0620.6	1				IIIG
			LEAR				0650.1	0651.2	1				V
			LEAR				0657.2	0657.3	1				III

SOLAR RADIO EMISSION
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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
02			LEAR				0828.6	0828.8	1				III
			BLEN	0907.2	0907.9	1							IIIG
	1017	1713	BLEN	1225.6	1225.8	1	1225.6	1238.0	2				IIIG
	0908	1741	WEIS				1226.7	1226.9	1				IIIB
	1302	2245	HARV										
			BLEN	1447.7	1448.3	1							IIIG
			PALE				1645.0	0110.0	1				B
			BLEN	1707.2	1708.9	1							IIIG
	2032	2400	CULG				2032	2202					IS,W
			CULG				2045	2340					IIIN,W
			CULG							2220	2400	1	SWF
			CULG				2339.5		1				IIIB
03	0000	0731	CULG							0000	0450	1	SWF
			CULG				0118	0124					IIIS,W
			CULG				0142	0330	1				IS
			CULG				0330	0641					IN,W
			CULG				0434						IIIB,W
			CULG				0435.5	0440	2			II	
			CULG				0439	0454	1			IV	
			CULG				0441	0442.5	1				IIIGG
			CULG				0443.5	0444	1				UNCLF
			CULG				0443.5		1				IIIB
			LEAR				0501.2	0502.3	1				CONT
	0515	1800	DWIN										
	0515	1450	DWIN	0521.6		2							IIIB
	0535	0910	BLEN	0535 E	0910 D	2	0535 E	0910 D	2				I
			BLEN	0544.2	0545.8	2	0544.2	0545.8	2				IIIG
	0509	1425	WEIS				0643.2	0643.3	1				IIIB
			BLEN				0645.9	0646.0	1				IIIG
			WEIS				0732.4	0732.5	1				IIIB
			WEIS				0825.5	0825.8	1				IIIG
			BLEN	0845.3	0845.4	2							IIIG
			LEAR				0846.7	0849.6	1				CONT
			WEIS				0931.4	0931.6	1				IIIG
			WEIS				0943.2	0943.2	1				IIIB
	1017	1050	BLEN	1017 E	1712 D	2	1017 E	1712 D	2				I
			DWIN	1245		1							IIIB
	1434	1739	WEIS				1449.7	1451.0	2				IIIG
	1249	1712	BLEN	1449.7	1450.0	1	1449.6	1450.3	1				IIIGG,RS
	1302	2245	HARV				1450		2	1450		1	IIIG
			WEIS				1454.4	1455.7	1				IIIG
			WEIS				1502.8	1502.9	1				IIIG
			BLEN				1541.0	1541.2	1				IIIG
			WEIS				1541.2	1541.3	1				IIIB
			BLEN	1621.2	1621.2	1	1628.8	1630.3	2				IIIGG
			WEIS				1627.8	1631.1	3				IIIGG
			HARV				1628	1630	2	1628	1630	2	IIIG
			WEIS				1700.4	1700.5	1				IIIB
			PALE				1850.1	1851.0	1				III
			HARV				1857	1901	3	1857	1901	3	IIIG,V
			HARV				1907	1909	1				I
			HARV				1940	2245	1				INH
	2033	2400	CULG										
			CULG				2033	2053	1				IIIS
			CULG				2051	2225	1				IS
			CULG				2053	2128					IIIS,W
			CULG				2117.5		1				IIIB
			HARV				2117		1				IIIGW
			CULG				2128	2337					IIIN,W
			CULG				2224.5	2349					IN,W
			CULG				2318	2322	2	2318	2321	1	IIIGG
04	0000	0731	CULG				0029.5	0030					IIIG,W
			CULG				0119	0312					IN,W
			CULG				0139						IIIB,W
			CULG				0312	0731					IS,W
	0537	0910	BLEN	0537 E	1710 D	2	0537 E	1710 D	2				I,DC
			CULG				0553						IIIB,W
	0510	1737	WEIS				0601.1	0607.3	2				IIIGG

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
04			BLEN	0601.3	0605.3	2	0601.3	0607.2	2				IIIGG
			CULG				0601.5	0606	2	0601.5	0604.5	1	IIIGG
			CULG				0607						IIIB,W
			WEIS				0611.7	0613.6	2				IIIG
			CULG				0611	0613					IIIGG,W
			BLEN	0634.0	0634.2	1							IIIG
			BLEN	0846.7	0846.8	1							DCIM
	0520	0918	DWIN	0846.7	0846.8	2							IIIG
	1017	1710	BLEN				1121.3	1123.8	1				III
			BLEN	1304.4	1304.8	1							UNCLF
			BLEN	1309.0	1309.1	1							DCIM
	1240	1730	DWIN	1309.2	1309.3	2							
			WEIS				1341.4	1341.5	1				IIIB
	1302	2245	HARV				1627	1633	2	1627	1633	2	IIIG
			BLEN	1634.0	1637.3	1	1634.0	1637.3	1				IIIG
			WEIS				1637.7	1637.9	1				IIIB
			HARV				1743	1815	1				IN
			HARV				1815	2000	2				I
			PALE				1820.2	1820.6	1				III
			PALE				1846.6	1846.9	1				III
			HARV				2000	2110	1				IN
	2031	2400	CULG				2031	2400	1				IS
			CULG				2034	2400					IIIN,W
			PALE				2040.2	2042.8	2				V
05	0000	0731	CULG				0000	0550					IS,W
			CULG				0123	0706					IIIN,W
			LEAR				0200.0	0245.2	1				S
			LEAR				0200.5	0202.2	2				CONT
			PALE				0200.8	0201.8	1				V
			LEAR				0438.5	0443.8	1				CONT
			LEAR				0528.3	0528.6	1				III
	0537	0910	BLEN	0537 E	1710 D	2	0537 E	1710 D	2				I
			CULG				0550	0731	1				IS
			LEAR				0624.4	0626.6	1				CONT
			BLEN	0624.9	0624.9	2							IIIB
			BLEN	0705.1	0708.0	2							III
	0515	1730	DWIN	0706.2	0707.3	2							IIIG
			CULG				0706	0731					IIIS,W
	0511	0921	WEIS				0708.2	0708.7	2				IIIG
			CULG				0708	0708.5	1				IIIB
			BLEN	0801.7	0805.1	2							IIIG,RS
			BLEN	0817.3	0817.3	1							IIIB
			LEAR				0936.6	0937.2	1				V
			DWIN	0946.5	0747.5	1							IIIG
			DWIN	1048.6	1049.1	1							IIIG
	1017	1710	BLEN	1048.6	1053.6	2							IIIGG
			BLEN	1141.8	1141.8	1							IIIB
			BLEN	1142.8	1144.4	1							IIIGG
			DWIN	1148.2	1148.4	1							IIIG
			BLEN	1205.9	1214.8	1							IIIGG,RS
	1029	1333	WEIS				1328.7	1329.2	1				IIIG
			BLEN	1441.8	1441.8	2							IIIB
	1302	2245	HARV				1540	2245	1				IN
	1337	1407	WEIS				1548.2	1548.4	1				IIIG
	1433	1738	WEIS				1600.6	1600.7	1				IIIB
			WEIS				1617.3	1617.4	1				IIIB
			WEIS				1621.4	1621.6	1				IIIB
			HARV				1734	1738	1				IIINW
			HARV				1858	1859	2	1858	1859	2	IIIG
			HARV				1908		1	1908		1	IIIG
	2031	2400	CULG				2031	2400	1				IS
			CULG				2059.5	2100	1				IIIB,U
			CULG				2138.5	2139	2				IIIG,U
			HARV				2138		2				IIIB
			CULG				2211	2212	1				IIIG,U
			CULG				2216	2217					IIIG,W
			CULG				2335.5	2336	2	2335.5	2336	1	IIIG
			CULG				2338	2338.5	2				IIIG
			CULG				2340.5						IIIB,W

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
06			CULG				0000	0710					IIIN,W
	0000	0731	CULG				0000	0259					IS,DC,W
			PALE				0053.0	0415.0	1				B
			CULG				0145.5		1	0145.5		1	IIIB
			LEAR				0200.0	1015.0	1				B
			CULG				0204	0204.5	2	0204	0205	2	IIIG
			CULG				0206.5	0207.5	1				IIIG
			CULG				0259	0345	1				IS,DC
			LEAR				0303.7	0304.4	2				V
			CULG				0345	0438					IS,W
			CULG				0349	0349.5	1	0349	0349.5	1	IIIG
			CULG				0438	0731	1				IN
	0515	1415	DWIN										
	0538	0910	BLEN	0538 E	1710 D		0538 E	1710 D					I
	0510	1537	WEIS				0542.0	1533.0	2				IIIN
			CULG				0614.5		1				IIIB
			WEIS				0625.7	0629.4	3				IIIGG
			CULG				0626	0629	2				IIIGG
			BLEN	0628.3	0629.2	2	0626.2	0629.3	2				IIIGG
			BLEN				0652.1	0652.3	2				IIIG
			CULG				0652		1				IIIB
			CULG				0653.5		1				IIIB
			CULG				0656		1				IIIB
			CULG				0710	0731					IIIS,W
			WEIS				0711.0	0717.9	3				IIIGG
			BLEN	0715.9	0716.6	2	0715.7	0716.6	2				IIIGG
			CULG				0716	0717	2				IIIG
			BLEN	0746.2	0746.4	1	0746.2	0746.4	1				IIIG
			BLEN				0838.1	0838.5	2				IIIG
			BLEN				0906.0	0909.8	2				IIIGG
	1017	1710	BLEN	1027.6	1027.7	1	1027.4	1027.6	1				IIIG
			BLEN	1058.5	1059.9	2	1043.8	1059.9	2				IIIGG
			WEIS				1138.2	1143.3	3				IIIGG
			BLEN	1139.2	1153.4	2	1138.7	1157.7	2				IIIGG
			WEIS				1148.3	1150.2	3				IIIG
			WEIS				1211.6	1213.2	3				IIIG
			BLEN	1211.6	1212.9	2	1211.6	1212.9	2				IIIGG
			BLEN	1257.6	1258.9	2	1257.6	1259.2	1				IIIGG
			BLEN				1258.3	1258.7	1				IIIG
			WEIS				1331.6	1334.3	2				IIIGG
	1302	2250	HARV				1332	1337	3	1336	1337	1	IIIGG,V
			BLEN	1333.0	1337.6	2	1332.4	1347.6	2				IIIGG
			WEIS				1335.3	1339.4	3				IIIGG/V
			HARV				1347		2				IIIG
			BLEN				1411.4	1412.0	1				IIIG
			HARV				1451		1				IIIG
	1500	1730	DWIN										
			BLEN	1530.3	1531.5	2							DCIM
			BLEN				1542.2	1542.3	1				IIIB
			HARV				1542	1543	2				IIIG
			BLEN	1606.8	1607.0	2							DCIM
			HARV				1607		1				IIIB
			BLEN	1617.3	1620.0	1	1617.3	1621.0	1				IIIGG
			HARV				1620	1653	1				IN,IIIN
			BLEN	1645.2	1649.7	2	1645.2	1647.5	2				IIIGG
			HARV				1645	1649	3	1646	1649	3	IIIGG,V
	1656	1720	WEIS										
			HARV				1717	2245					IIIN,IN
			HARV				1851	1855	2	1851	1855	2	IIIGG
			HARV				1942	1951	2	1942	1951	2	IIIN
			CULG				2031	2400					IIIS,W
	2031	2400	CULG				2031	2400					IS,W
			HARV				2039	2134	1				IN,IIIN
			CULG				2044	2045.5	1				IIIG
			CULG				2133.5	2134	1				IIIG
			CULG				2234.5	2235	1	2234.5	2235	1	IIIG
			CULG				2246		2				IIIB
			CULG				2343		1				IIIB
			CULG				2352	2352.5	2				IIIG
			CULG				2355	2356	2				IIIG

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
06			CULG				2356	2357	1				IIIG
07			CULG				0000	0158					IS,W
	0000	0730	CULG				0000	0021					IIIS,W
			CULG				0021	0423					IIIN,W
			CULG				0026.5	0027	1				UNCLF
			CULG				0056.5	0059	3	0056.5	0059.5	3	IIIGG,V
			CULG				0100.5	0101	1				IIIG
			CULG				0102.5	0117.5	3	0113.5	0115.5	1	II H
			CULG				0119	0120	1				IIIG
			LEAR				0231.8	1015.0	1				B
			CULG				0242.5			0242.5			IIIB,W
			CULG				0252	0253	1	0252.5	0253	1	IIIG
			CULG				0310.5	0311	1	0311	0311.5	2	IIIB,V
			CULG				0326.5	0327	1				IIIG
			CULG							0327	0327.5		IIIG,W
			CULG				0414	0415.5	1	0414.5	0415.5	1	IIIG
			CULG				0418.5	0420	3	0419	0420	2	IIIG,V
			CULG				0421	0540					IS,W
			CULG				0423	0708					IIIS,W
			CULG				0427.5	0428	1				IIIG
			CULG				0515	0518	2	0515.5	0518	2	IIIGG
			LEAR				0516.8	0517.5	2				V
			CULG				0519	0520	2	0519	0520	2	IIIGG
			CULG				0521	0522.5	1				IIIG
	0522	1717	WEIS				0526	1710	2				IIIN
			CULG				0533.5		1	0533.5		1	IIIB
			WEIS				0535.0	1656.0	2				IN,DC
			CULG				0540	0730	1				IS,DC
	0539	0850	BLEN	0547	0632	1	0547	0632	1				I
			CULG				0551.5	0552	2				IIIG
			BLEN	0551.7	0617.7	2	0551.7	0617.7	2				IIIGG,S
			CULG				0555	0556	2	0555	0556	1	IIIG
			CULG				0704	0730	1				SCINT
			CULG				0705.5	0714	2				DC
	1017	1700	BLEN	1030.0	1031.7	1							IIIG
			WEIS				1030.2	1032.8	3				IIIGG
			WEIS				1111.4	1115.8	3				IIIGG,RS
			BLEN	1112.8	1114.0	1	1111.3	1114.0	1				UNCLF
	0515	1700	DWIN	1113.1	1140.0	1							IIIG
			WEIS				1147.7	1150.4	3				IIIG/V
			BLEN	1147.9	1148.9	1	1147.9	1149.0	1				IIIG,RS
			DWIN	1148.0	1148.8	1							IIIG
			BLEN	1151.7	1154.2	1							DCIM
			BLEN				1200.6	1217.8	1				III
			BLEN	1221.7	1223.8	1							III
			BLEN				1324.0	1325.2	1				IIIG
			BLEN				1345.9	1353.0	1				IIIG
	1302	2245	HARV				1349	2107	1	1904	2107	1	IIIN
			BLEN	1420	1700	D 2	1420	1700	D 2				I,DC
			BLEN	1607.6	1612.6	1	1606.9	1612.6	1				IIIGG
			HARV				1607	1613	2	1607	1613		IIIG
			HARV				1704		2	1704		2	IIIG
			HARV				1732	1738	3	1732	1738	3	IIIGG
			PALE				1800.0	0415.0	1				B
			HARV				1807	1808	3	1807	1808	3	IIIG
			HARV				1931	1937	3	1931	1937	3	IIIG
			HARV				1943	1951	3	1943	1951	3	IIIGG,V
			HARV				1954	1957	3	1954	1957	3	IIIGG
			HARV				1956	2010	3	1957	2010	3	II
	2030	2400	CULG				2030	2103					IS,W
			CULG				2030	2257					IIIS,W
			CULG				2049.5	2050	2				IIIG
			CULG				2050	2207	1				IIIN
			HARV				2050	2051	3	2050	2051	3	IIIG
			CULG				2113.5	2114	1				IIIG
			HARV				2114		3	2114		3	IIIB
			CULG				2140.5		2				IIIB
			HARV				2140		3	2140		3	IIIG
			CULG				2210	2210.5	1				IIIG

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
07			CULG				2210	2400					IS,W
			CULG				2257	2400					IIIN,W
			CULG				2355		1	2355	2355.5	1	IIIB
			CULG				2356	2356.5	2	2356	2356.5	2	IIIG
			CULG							2357.5	2359		IIIG,W
08	0000	0730	CULG				0000	0702					IN,W
			CULG				0000	0730					IIIN,W
			CULG				0015.5	0017					POSS II,W
			CULG				0016	0558	1	0016	0557	1	IIIG,N
			LEAR				0212.0	0214.2	2				CONT
			LEAR				0240.6	1015.0	1				B
			CULG				0247.5	0249	2	0247.5	0249	2	IIIG
			CULG				0431.5		2				IIIG
	0523	0826	WEIS				0530.0	1640.0	2				IIIN
			CULG				0530.5	0532.5	3	0531	0532	2	IIIG,V
			CULG				0535	0536.5	3	0535	0536	2	IIIG
	0540	0910	BLEN	0540 E	1700 D	2	0540 E	1700 D	2				I,DC,N
			BLEN				0552.7	0556.9	2				IIIG
	0840	1026	WEIS				0624.9	1630.1	3				IIIGG
			CULG				0627.5	0630	3				IIIGG
	0515	1630	OWIN	0628.3	0629.5	1							IIIG
			BLEN	0628.5	0631.4	2	0627.7	0631.6	2				IIIGG,DCIM
			BLEN	0647.3	0647.9	3							IIIG,U,RS
			CULG				0702	0730					IS,W
			BLEN	0819.3	0819.3	2	0819.3	0820.8	2				IIIGG
			BLEN				0844.0	0849.0	2				IIIGG
	1034	1716	WEIS				0844.0	0846.6	3				IIIGG
			BLEN	0855.2	0901.0	2							IIIGG
	1017	1700	BLEN				1202.2	1208.9	3				IIIG
			WEIS				1208.7	1209.2	2				IIIG,U
			BLEN				1236.4	1246.0	2				IIIGG
			BLEN	1247.0	1434.3	3							IIIGG
			OWIN	1430.4	1430.5	1							IIIG
			BLEN	1503.8	1504.5	1							IIIGG
			BLEN	1547.3	1547.8	2	1547.3	1547.8	2				IIIG
			BLEN				1614.7	1615.1	3				IIIG
	1302	2245	HARV				1615		2				IIIG
			HARV				1731	1733	2	1731	1733	2	IIIG
			PALE				1800.0	0415.0	1				B
			HARV				1804	1805	2	1804	1805	2	IIIG
			HARV				1826	1828	2	1826		2	IIIG
			HARV				1925	1926	3				IIIG
	2031	2400	CULG				2031	2045					IIIS,W
			CULG				2104.5						IIIB,W
			CULG				2114.5		1				IIIB
			HARV				2115		1				IIIB
			HARV				2125	2126	1				IIIG
			CULG				2125	2126	1				IIIG
			CULG				2253.5	2254.5					IIIG,W
			CULG				2301.5	2302.5					IIIG,W
			CULG				2309	2310					IIIG,W
			CULG				2317	2318.5	2				IIIG
			CULG				2343						IIIB,W
09	0000	0730	CULG				0014						IIIB,W
			CULG				0050	0050.5					IIIG,W
			CULG				0056	0100					IIIG,W
			CULG				0154.5	0156	2	0154.5	0156	2	IIIG
			CULG				0156.5	0157	1	0156.5	0157	1	IIIG
			CULG				0157.5		2				IIIB
			LEAR				0200.0	0920.0	1				B
			CULG				0201.5						IIIB,W
			CULG				0202.5						IIIB,W
			CULG				0222.5	0223.5					IIIG,W
			CULG							0245	0255	1	SWF
			CULG				0400.5	0402	2				IIIGG
	0541	0910	BLEN	0541 E	1700 D	3	0541 E	1700 D	3				I,DC
	0523	1457	WEIS				0652.0	1425.0	2				IIIN
			CULG				0653						IIIB,W

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
09			LEAR				0659.8	0701.5	2				CONT
			BLEN				0717.2	0717.6	2				IIIG
			CULG				0717	0718	1				IIIG
			CULG				0721.5						IIIB,W
			BLEN				0744.7	0745.0	2				IIIG
			BLEN	0823.3	0823.6	1	0823.3	0823.6	1				IIIG
			WEIS				0919.9	0928.9	3				IIIGG
	0520	1500	DWIN	0921.7	0923.1	1						IV	P
			DWIN	0924.8	0925.8	1							IIIG
	1015	1700	BLEN				1015.5	1016.3	2				IIIGG
			BLEN				1029.2	1029.7	2				IIIG
			BLEN	1059.5	1100.6	3	1052.3	1105.9	3				IIIGG,V
			BLEN				1145.2	1147.3	2				IIIGG
	0520	1500	DWIN	1147.5	1147.8	2							IIIG
			BLEN	1147.7	1147.9	2							DCIM
			BLEN				1156.8	1201.3	1				IIIGG
			DWIN	1211.7	1212.5	2							IIIG
			BLEN	1211.9	1212.6	3							DCIM,III
			WEIS	1212.0	1212.6	2							RS
			WEIS				1227.5	1231.0	3				IIIGG
			BLEN	1227.8	1234.1	3	1227.8	1230.9	3				III,DCIM
			DWIN	1228.2	1228.6	3							IIIG
			BLEN	1356.5	1359.9	3	1358.5	1359.9	3				IIIG,V
			WEIS				1358.4	1359.8	2				IIIG
	1302	2245	HARV				1359	1815					IIIN
			BLEN	1421.9	1421.9	2	1420.7	1422.2	2				IIIGG
			HARV				1422		2				IIIG
			HARV				1532	1547	3				IIIGG,I
			BLEN				1551.5	1551.5	1				IIIB
			BLEN				1604.8	1604.9	1				IIIB
			BLEN				1647.9	1648.0	1				IIIB
			BLEN				1659.5	1700.0	2				IIIG
			HARV				1659	1700	2	1659	1700	2	IIIG
			PALE				1846.0	0412.0	1				B
			HARV				1911	1912	3				IIIG
			HARV				1925	1927	3				UNCL
			HARV				1944	1948	2				IIIG
			HARV				1954	1955	2	1954	1955	1	IIIG
			PALE				2006.5	2014.1	1				CONT
			PALE				2030.0	0414.0	1				B
	2030	2400	CULG				2102	2102.5	2				IIIG
			HARV				2102		3	2102		3	IIIG
			PALE				2115.6	2115.8	1				V
			CULG				2126						IIIB,W
			PALE				2237.8	2241.0	1				V
			CULG				2248	2250.5					UNCLF,W
			CULG				2251.5						IIIB,W
			CULG				2323						IIIB,W
			CULG				2353.5	2354.5	1	2353		1	IIIG
10	0000	0730	CULG				0022	0022.5	1				IIIB
			CULG				0035.5						IIIB,W
			CULG	0037.5	0038.5	1							IIIG,RS
			LEAR				0200.0	1015.0	1				B
			CULG				0222						IIIB,W
			LEAR				0325.8	0326.8	2				V
			CULG				0327.5	0328	1				IIIG
			CULG				0410	0412		0410.5	0411		UNCLF,W
			CULG				0416	0417.5	1				IIIG,RS
			LEAR				0419.9	0421.0	2				V
			CULG	0515.5	0516.5	1	0515.5	0518	3	0515.5	0518	2	IIIGG,V
			CULG				0518.5	0543	1			II	
			CULG				0518	0528					IIIS,W
			CULG				0534	0534.5	1				UNCLF
			CULG				0537	0537.5	1				UNCLF
	0558	1711	WEIS				0559.0	1609.0	2				IIIN
			CULG				0559	0600	1				IIIG
			CULG				0601.5	0602	1				IIIG
			BLEN	0643.6	0646.1	2							IIIG
			CULG				0708.5	0709.5	1				IIIG

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
10	0700	1700	OWIN	0712.4	0714.0	1							IIIG
			BLEN	0712.4	0714.1	1	0708.8	0714.1	1				IIIGG
			CULG				0712.5	0714	1				IIIG
			LEAR				0739.9	0740.8	2				CONT
	0541	0910	BLEN	0855.5	0602.1	2	0855.5	0602.1	2				IIIG
	1017	1700	BLEN	1124.1	1128.8	3							IIIGG
			WEIS				1124.3	1125.7	3				IIIG
			BLEN				1136.0	1136.3	1				IIIG
			BLEN	1147.0	1159.9	3	1147.0	1156.6	3				IIIGG
			WEIS				1154.4	1156.7	3				IIIGG
			OWIN	1154.7	1155.6	1							IIIG
			BLEN	1225.4	1226.0	2	1225.4	1226.0	2				IIIGG
			BLEN	1304.3	1310.6	1	1303.5	1310.6	1				IIIG
			BLEN	1319.4	1319.6	1	1319.4	1319.6	1				IIIG
			BLEN				1334.6	1334.9	2				IIIG
	1302	2245	HARV				1350	1351	3				IIIG
			BLEN	1357.0	1358.7	3	1350.0	1358.7	3				IIIGG
			WEIS				1357.7	1358.7	3				IIIG
			OWIN	1357.8	1358.1	2							IIIG
			HARV				1358	1359	2				IIIG
			BLEN	1422.8	1422.9	2							IIIG
			BLEN				1505.2	1506.2	1				IIIG
			BLEN				1537.3	1537.9	2				IIIG
			HARV				1537	1538	1				IIIG
			HARV				1605	1609	1				IIIG
			BLEN	1659.2	1659.4	1	1659.2	1659.4	1				IIIG
			HARV				1750	1754	2				IIIG,U
			HARV				1814	1815	3	1814	1815	3	IIIG
			HARV				1827		1	1827		1	IIIB
			HARV				1835		3	1835		1	IIIG
			HARV				1917		3				IIIG
	2030	2400	CULG										
			CULG				2035.5	2036					IIIB,W,U
			CULG				2036						IIIB,W
			CULG				2039.5						IIIB,W
			CULG				2056						IIIB,W
			CULG				2102	2102.5	1				UNCLF
			CULG				2124.5	2125	1				IIIG
			HARV				2125		2				IIIG
			CULG				2215.5	2216					IIIG,W
			CULG				2232.5						IIIB,W
			CULG				2252	2253	2				IIIG
			CULG							2253	2253.5		IIIG,W
			CULG				2255.5		1				IIIB
			CULG				2351	2351.5					IIIB,W
11	0000	0729	CULG				0001	0003.5					IIIG,W
			CULG				0002.5	0003	1	0002.5	0003.5	1	IIIG
			CULG				0024						IIIB,W
			CULG				0027		1				IIIB
			CULG				0044		1				IIIB
			CULG				0103	0104.5	2	0103.5	0104.5	2	IIIG,V
			CULG				0105.5	0107	3				IIIG
			CULG				0149	0150	2				IIIG
			CULG				0153	0155.5		0155.5			IIIG,W
			CULG				0226		1				IIIB
			LEAR				0231.0	0232.5	1				CONT
			CULG				0252	0252.5					IIIG,W
			CULG				0422	0729					IIIN,W
			LEAR				0501.4	0501.8	1				V
			CULG				0505.5		1				IIIB
			LEAR				0518.1	0518.3	1				III
			CULG				0523	0525	3	0524	0524.5	1	IIIGG,V
	0542	0910	BLEN				0544.3	0544.5	1				IIIG
	0528	1413	WEIS				0559.0	1557.0	2				IIIN
			CULG				0617	0617.5	1				IIIG
			BLEN	0618.6	0620.3	3	0619.2	0620.6	1				IIIG,DCIM
			OWIN	0619.8	0620.4	1						IV	
	0520	1617	OWIN	0623.0	0530	2						IV	Z
			LEAR				0626.4	0627.1	1				V

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
11			LEAR				0706.0	0718.0	1				S
			BLEN	0800.3	0811.6	3	0800.3	0810.3	3				IIIGG
			DWIN	0809	0811	2							IV
			BLEN				0905.0	0908.5	2				IIIGG
	1421	1709	WEIS				1003.8	1004.9	3				IIIGG,RS
			DWIN	1007	1011	2							IV
			WEIS				1009.2	1010.3	3				IIIG,UU
			WEIS				1022.6	1023.5	3				IIIG,RS
	1017	1507	BLEN	1022.6	1023.5	3	1020.1	1023.5	3				IIIGG
			DWIN	1022.8	1023.0	1							IIIG
			BLEN	1034.1	1039.6	3	1034.3	1039.0	2				IIIGG,DCIM
			DWIN	1034	1039	2							IV
			WEIS				1038.4	1039.4	3				IIIG
			BLEN	1145.9	1146.3	2							IIIG
			BLEN	1229.5	1231.2	2	1229.5	1233.8	1				IIIGG
			DWIN	1229.5	1231.0	1							IV Z
			BLEN				1318.7	1318.9	1				IIIG
			BLEN				1445.5	1447.2	1				IIIG
	1301	2245	HARV				1448	1449	2				IIIG
			HARV				1517	1519	2				IIIG
			DWIN	1545.9	1546.6	1							IV
			HARV				1546	1548	2				IIIG
	1552	1657	BLEN	1555.9	1600.7	1	1555.9	1600.7	2				IIIG
			HARV				1601	1605	1				I
			WEIS				1603.1	1605.6	1				II
			HARV				1656		1				IIIB
			HARV				1818		1				IIIB
			HARV				1910		2				IIIB
			HARV				2023		1				IIIBW
			HARV				2025		1				IIIB
			CULG				2029	2211					IS,W
	2029	2400	CULG										
			CULG				2036	2037	1				IIIG
			HARV				2037		2				IIIG
			HARV				2119		2				IIIG
			CULG				2119	2120	1				IIIG
			HARV				2128		1				IIIG,W
			CULG				2211	2339					IN,W
			HARV				2212	2213	1				IIIG
			PALE				2237.8	2241.0	1				V
			CULG				2313						IIIB,W
12	0000	0729	CULG										
			CULG				0137						IIIB,W
			LEAR				0200.0	1015.0	1				B
			CULG				0335.5	0337	3	0336	0337	1	IIIGG
	0600	1700	DWIN										
	0542	0910	BLEN				0618.6	0619.2	2				IIIGG
			BLEN	0651.1	0652.0	2	0651.1	0652.0	2				IIIGG
	0530	1709	WEIS				0651.3	0651.9	2				IIIG
			CULG				0651	0652	1				IIIG
			LEAR				0722.8	0728.0	2				CONT
			LEAR				0729.2	0729.7	3				CONT
			LEAR				0743.0	0749.2	2				CONT
			WEIS				0811.0	0811.4	2				IIIG
			BLEN	0811.0	0811.6	2	0811.0	0812.1	2				IIIGG,RS
			LEAR				0811.3	0812.3	2				CONT
			LEAR				0820.8	0821.9	2				CONT
	1017	1650	BLEN				1140.5	1140.7	1				IIIB
			WEIS				1142.6	1142.8	2				IIIB
			BLEN	1459.1	1459.7	2	1459.1	1459.3	2				IIIGG
			WEIS				1459.2	1459.7	2				IIIG
	1302	2345	HARV				1459	1500	2				I
			WEIS				1621.2	1621.3	2				IIIB
			HARV				1621		1	1621		1	IIIB
			PALE				1815.2	1815.4	1				III
	2028	2400	CULG				2239.5						IIIB,W
			CULG				2339						IIIB,W
13	0000	0728	CULG				0006	0006.5					UNCLF,W

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
13			CULG				0010	0010.5					IIIG,W
			CULG				0105.5						IIIB,W
			CULG				0106.5		1				IIIB
			LEAR				0235.0	0500.0	1				B
			CULG				0412	0413	1				IIIGG
			CULG				0419.5	0420	1	0419.5	0420	1	IIIG
			LEAR				0549.2	0600.3	1				CONT
	0542	0910	BLEN				0555.3	0556.6	2				IIIGG
			CULG				0555	0556.5					IIIG,W,U
	0600	0923	DWIN										
			CULG				0632.5	0633.5	2				IIIG
			LEAR				0714.8	0715.3	1				CONT
			LEAR				0802.4	0802.7	1				V
			BLEN	0837.3	0838.2	2							IIIGG
	0530	1034	WEIS				0837.6	0837.8	1				IIIG
	1022	1700	DWIN										
	1016	1650	BLEN	1034.3	1034.9	1							IIIG
	1302	2245	HARV										
	1045	1705	WEIS				1349.5	1351.6	2				IIIG
			BLEN	1357.2	1357.2	1							IIIB
			PALE				1959.2	2003.2	2				V
	2028	2400	CULG				2215.5						IIIG,W
			CULG				2216.5						IIIB,W
			CULG				2242.5						IIIB,W
			CULG				2308	2308.5					IIIG,W
14	0000	0751	CULG				0139	0139.5	1	0139	0140	1	IIIG,V
			CULG				0150.5						IIIB,W
			LEAR				0200.0	1015.0	1				B
			CULG				0204.5						IIIB,W
			CULG							0326	0334	1	SWF
			CULG				0454	0455	3	0454.5	0455	2	IIIG
			CULG				0455	0456	1				IIIG
			CULG				0529.5	0530	1				IIIG
			CULG				0535	0536	2				IIIG
			CULG				0543	0544	1				IIIG
			CULG				0545	0546					IIIG,W
			CULG				0608	0608.5	2				IIIG
			CULG				0625.5	0626					IIIG,W
			CULG				0628.5	0629					IIIG,W
	0542	0910	BLEN				0628.7	0634.2	1				IIIG
			CULG				0633.5	0634.5	2				IIIG
	0531	1703	WEIS				0633.8	0634.2	2				IIIG
			CULG				0639.5						IIIB,W
			CULG				0654						IIIB,W
	0600	1700	DWIN	0656	1151	1						IV	F
			BLEN	0659.9	0805.0	3	0659.9	0805.0	3			II,	IV
			CULG				0700	0751	3			IIH	
			WEIS				0707.0	1630.0	2				IS,CONT
			CULG				0717	0718	1				IIIG
			CULG				0719.5	0722.5	3				IIIGG,V
			WEIS				0719.8	0721.7	2				IIIG
			CULG				0728	0747	2				IIIS
			WEIS				0738.2	0753.0	2				IIIGG/V
			BLEN	0815.0	0910	D 3	0815.0	0910	D 3			IV,	DCIH
	1015	1657	BLEN	1015	E 1100	3	1015	E 1100	3			IV,	S
			BLEN	1127.3	1127.7	1							IIIG
			BLEN	1343.8	1344.2	2							IIIGG
	1302	2245	HARV				1400	1720	1				IN
			HARV				1701		1				IIIBW
			HARV				1705		1				IIIB
			PALE				1845.8	1850.8	2				CONT
			PALE				1959.2	0410.0	1				B
	2027	2400	CULG				2027	2200					IS,W
			CULG				2145.5	2152					IIIG,W
			CULG				2200	2342					IN,W
			PALE				2323.1	2323.7	3				V
15	0000	0728	CULG							0116	0129	1	SWF
			CULG				0253						IIIB,W

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
15			LEAR				0254.3	0255.2	1				CONT
			LEAR				0523.8	0525.0	1				CONT
	0600	1400	DWIN										
			LEAR				0653.1	0653.4	1				CONT
	0818	1032	WEIS										
	0558	0910	BLEN	0858.0	0910 D	1	0858.0	0910 D	1				I
	1015	1653	BLEN	1032.1	1044.8	2	1032.1	1044.8	2				IIIGG,DCIM
			BLEN	1102.4	1103.0	1							IIIG
			BLEN	1215.5	1219.8	1							IIIGG,RS
			BLEN	1253.7	1254.2	2							IIIGG
	1202	1703	WEIS				1350.0	1652.0					IN
	1302	2245	HARV				1435	1630	1				I
			WEIS				1440.4	1440.5	1				IIIB
			WEIS				1447.1	1447.3	1				IIIB
			HARV				1630	2245	1				IN
			HARV				1639		1				IIIBW
	2027	2400	CULG				2027	2153					IIIS,W
			CULG				2027	2400	1				IS,DC
			CULG				2153	2400					IIIN,W
			PALE				2335.8	2336.1	1				III
16	0000	0727	CULG				0000	0055					IS,W
			CULG				0055	0319					IN,W
			CULG							0109	0125	3	SWF
			CULG				0115.5	0120	1				II
			LEAR				0202.3	0207.1	1				CONT
			LEAR				0234.9	0235.3	1				V
			LEAR				0304.4	0305.6	2				CONT
			LEAR				0308.8	0309.7	1				CONT
			CULG				0319	0611					IS,W
			CULG				0459	0459.5	2				IIIG
			LEAR				0523.9	0531.2	1				CONT
	0557	0910	BLEN	0557 E	1215 D		0557 E	1215 D					I,DC
			LEAR				0631.2	0632.5	2				CONT
			BLEN	0734.5	0734.9	1	0734.5	0734.9	1				IIIG
			BLEN	0749.7	0756.9	2	0749.7	0756.9	2				IIIG,U
			LEAR				0800.4	0802.1	1				CONT
			LEAR				0922.4	0927.4	2				CONT
	1016	1215	BLEN	1031.9	1032.2	1	1031.9	1032.2	1				IIIG
	0534	1701	WEIS				1200.6	1607.0	1				IN
			BLEN	1208.7	1209.2	2							IIIG
	1312	2245	HARV				1312	2005	1				INW
	2027	2400	CULG				2125.5	2126					IIIG,W
			CULG				2244.5	2246	2				IIIG
			HARV				2245		2				IIIG
			CULG				2252	2252.5					IIIG,W
			CULG				2255.5		2				IIIB
			CULG				2335						IIIG,W
17	0000	0727	CULG				0021.5						IIIB,W
			CULG				0026						IIIB,W
			CULG				0049.5	0050	1				IIIG
			CULG				0051						IIIB,W
			PALE				0100.8	0101.0	1				III
			CULG				0313	0313.5					IIIG,W
			LEAR				0328.4	0330.3	1				CONT
			CULG				0341.5						IIIB,W
			CULG				0609.5		2				IIIB
			LEAR				0642.6	0642.9	1				CONT
			LEAR				0642.6	0642.9	1				S
	0750	1645	DWIN										
	0743	1056	WEIS				0801.7	0801.8	1				IIIB
			LEAR				0803.8	0830.8	1				S
	1120	1643	BLEN	1128.9	1643 D	2	1128.9	1643 D	2				I,N
	1101	1658	WEIS				1516.6	1516.7	1				IIIB
			WEIS				1554.7	1555.4	1				IIIG
	1313	2255	HARV				1734	1735	1	1734	1735	1	IIIG
			HARV				1813		1				IIIG
			PALE				1933.9	1940.0	1				CONT
			HARV				2006	2007	2				IIIG

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
17			PALE				2008.2	2010.8	2				V
			PALE				2033.9	2040.0	1				CONT
	2026	2400	CULG				2044	2244					IIIN,W
			CULG				2055	2056.5	2				IIIGG
			HARV				2055	2058	2				IIIG
			CULG				2057.5		1				IIIB
			CULG				2245	2246	1				IIIG
			HARV				2245	2246	2				IIIG
			CULG				2356	2356.5					I,W
18	0000	0711	CULG				0004	0036					IS,W
			CULG				0005.5	0006	2				IIIG
			CULG				0225.5						IIIB,W
			CULG				0226.5	0227.5	1				IIIG
			CULG				0304	0305	2				IIIG,U
			CULG				0305.5	0307	1				IIIG,U
			LEAR				0351.8	0352.4	1				V
			LEAR				0402.6	0410.0	1			II	
			CULG				0417	0417.5					IIIG,W
			CULG				0427	0427.5	1				IIIG
			CULG				0448.5						IIIB,W
			CULG				0450	0450.5	1				IIIG
			LEAR				0521.3	0522.3	1				CONT
			CULG				0525.5	0528.5	3				IIIGG,U
			CULG				0532.5		1				IIIB
			CULG				0539						IIIB,W
	0548	0910	BLEN	0548 E	1535	2	0548 E	1535	2				I,DC,S
	0600	1410	DWIN										
			CULG				0637.5	0638					IIIG,W
	0536	1656	WEIS				0637.7	0637.9	1				IIIB
			CULG				0640	0640.5					IIIG,W
			LEAR				0727.0	0727.4	1				V
			WEIS				0811.9	0812.1	1				IIIB
			LEAR				0904.9	0905.9	1				CONT
	1015	1640	BLEN										
			WEIS				1041.5	1041.6	1				IIIB
			WEIS				1058.0	1129.0	1				I
			WEIS				1122.8	1125.3	1				IIIG
			WEIS				1145.1	1145.5	2				IIIG
			WEIS				1147.8	1148.6	2				IIIG
			WEIS				1150.4	1150.8	2				IIIG
	1430	1630	DWIN										
			WEIS				1550.0	1550.7	1				IIIG
			WEIS				1614.4	1614.7	1				IIIG
	1313	2245	HARV				1614		1				IIIB
			HARV				1645		1				IIIGW
			HARV				1922	1923	1	1922	1923	1	IIIG
			HARV				2051		1				IIIGW
	2026	2400	CULG				2051	2051.5	1				IIIG
			CULG				2053.5	2054					IIIG,W
			CULG				2153	2154	1				IIIG
			HARV				2153	2154	1				IIIG
			CULG				2234	2234.5					IIIG,W
			CULG				2235.5		1				IIIB
			HARV				2235		1				IIIB
			CULG				2301						IIIB,W
			CULG				2335.5	2336					IIIG,W
			CULG				2339						IIIB,W
			CULG				2341.5		2				IIIB
			CULG				2341	2342					IIIG,W
19	0000	0731	CULG				0028			0028			IIIB,W
			CULG				0154						IIIB,W
			CULG				0157	0157.5	1				IIIG
			LEAR				0307.8	0308.1	1				I II
			LEAR				0343.2	0343.9	1				CONT
			CULG				0404			0404			IIIB,W
			CULG							0405	0422	1	SWF
			LEAR				0413.0	0414.1	1				CONT
			LEAR				0452.8	0549.1	1				S

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
19			CULG				0455	0457	1				IIIG
	0600	1630	DWIN										
			CULG				0612						IIIB,W
			LEAR				0613.9	0635.6	1				S
			LEAR				0621.3	0621.8	2				CONT
	0550	0910	BLEN	0645.2	0646.8	2							OCIM
			BLEN	0711.0	0715.5	2							IIIG,RS
	0536	1553	WEIS	0711.2	0711.3	2							RS
			BLEN	0736	0853.1	1	0736	0853.1	1				I,DC
			LEAR				0910.6	1015.0	1				B
			WEIS				1034.4	1034.5	1				IIIB
	1015	1637	BLEN	1130.0	1130.0	2	1130.0	1130.0	2				IIIB
			BLEN	1213.5	1213.7	2							IIIB
			BLEN	1410.2	1411.9	2							DCIM
			WEIS				1501.8	1502.0	1				IIIB
	1313	2245	HARV				1836		2	1836		2	IIIG
			HARV				1910	2120	1				I
			PALE				2009.9	2015.5	1				CONT
			HARV				2012	2014	2				IIIG
	2026	2400	CULG				2026	2125					IIIS,W
			CULG				2026	2238	1				IS
			PALE				2152.4	2152.8	2				V
			CULG							2303	2330	3	SHF
			CULG				2328.5	2329	2				IIIG
			CULG				2334.5	2335	2				IIIG
			CULG				2337.5	2338	2				IIIG
			PALE				2344.1	0005.1	2				S
20	0000	0721	CULG				0005	0005.5	1				IIIB
			CULG				0131.5	0132.5	1	0132	0132.5	1	IIIG
			LEAR				0200.0	1014.0	1				B
			LEAR				0213.5	0221.6	2				CONT
			CULG				0233	0234	1	0233.5		1	IIIG
			LEAR				0255.8	0256.6	2				CONT
			CULG				0334.5		1				IIIB
			CULG				0406						IIIB,W
			LEAR				0530.6	0531.4	2				CONT
	0600	1100	DWIN										
	0551	0910	BLEN	0621.2	0625.7	1	0621.2	0625.7	1				IIIG
			BLEN	0626	1520	2	0626	1520	2				I,DC
			CULG				0633.5						IIIB,W
			CULG				0635	0635.5					IIIG,W
	0541	1621	WEIS				0748.3	0749.3	2				IIIG
			WEIS				0849	1231.0	2				IN
			WEIS				0950.7	0951.0	1				IIIG
			WEIS				0954.7	0955.8	2				IIIG
			WEIS				1005.1	1005.3	2				IIIG
			WEIS				1134.1	1134.3	1				IIIG
	1151	1630	DWIN										
			WEIS				1227.7	1228.2	2				IIIG
			SGMR				1301.8	1302.0	1				III
	1015	1635	BLEN				1608.3	1608.8	1				IIIG
			WEIS				1608.4	1608.7	1				IIIG
	1313	2245	HARV				1608	1609	2				IIIG
			PALE				1915.9	1916.1	1				III
	2025	2400	CULG										
21			LEAR				0200.0	1014.0	1				B
			CULG				0258.5		1				RS,DP
	0000	0725	CULG				0258	0258.5					IIIG,W
			LEAR				0346.9	0351.0	2				CONT
			CULG				0501	0505					IIIS,W
			CULG				0502		1				IIIB
			CULG				0550.5	0551	2				IIIG
			CULG				0550.5	0551	1				RS,DP
	0558	1630	DWIN										
	0552	0800	BLEN				0601.3	0606.0	1				IIIG
			CULG				0601.5		2				IIIB
			CULG				0601	0602.5	1				RS,DP
			CULG				0601	0602.5	1				IIIG

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				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
21			CULG				0605.5	0606					IIIG,W
			LEAR				0633.0	0634.2	2				CONT
			CULG				0636.5	0638					IIIG,W
			CULG				0643						IIIB,W
			CULG				0655.5	0658.5	1				IIIGG
			CULG				0655.5	0658.5	1				RS,DP
	1000	1633	BLEN				1439.2	1439.3	2				IIIB
	0657	1649	WEIS				1439.3	1439.5	2				IIIG
	1313	2250	HARV				1439		1				IIIG
			WEIS				1453.0	1453.3	2				IIIG
			WEIS				1458.4	1459.2	1				IIIG
			WEIS				1547.2	1547.6	1				IIIG
			WEIS				1600.7	1601.6	1				IIIG
			HARV				1709	1710	1	1709	1710	1	IIIG
			HARV				1737		1				IIIGW
	2025	2400	CULG				2314.5		1				IIIB
			CULG				2352	2352.5					IIIG,W
			CULG							2354	2400	2	SWF
22	0000	0725	CULG							0000	0335	2	SWF
			CULG				0004.5	0008	3	0004.5	0008	2	IIIGG
			CULG				0032	0033	2	0032.5	0033	2	IIIG
			CULG				0034	0035	2	0034.5	0035	2	IIIG
			CULG				0041	0041.5	2	0041	0041.5	2	IIIG,U
			LEAR				0200.0	1014.0	1				B
			LEAR				0207.6	0209.1	2				CONT
			PALE				0208.3	0208.9	1				III
			CULG				0255.5			0255.5			IIIB,W
			CULG				0349.5	0351	2	0349.5	0351	1	IIIG,V
			CULG				0352.5	0353	1				IIIG
			CULG				0404	0404.5					IIIG,W
			CULG				0440.5	0441	1				IIIG
			CULG				0446	0446.5					IIIG,W
			CULG				0453.5	0458.5	2				IIIGG
			LEAR				0520.3	0523.1	2				CONT
	0542	1600	WEIS				0553.5	0554.5	1				IIIG
			CULG				0554	0554.5					IIIG,W
	0552	0945	BLEN				0557.4	0600.0	2				IIIG
			CULG				0557.5	0559	2				IIIG
	1626	1647	WEIS				0557.5	0600.8	3				IIIG
			WEIS				0842.0	0842.3	2				IIIG
			WEIS				0948.1	0948.3	2				IIIB
	0600	1630	OWIN	1114.8	1115.9	2							IIIG
			WEIS				1126.9	1127.1	1				IIIB
			OWIN	1154.5	1155.0	2							IIIG
	1313	2245	HARV										
	1510	1632	BLEN										
			PALE				1940.0	0400.0	1				B
	2025	2400	CULG										
23	0000	0710	CULG				0154			0154			IIIB,W
			LEAR				0200.0	1014.0	2				B
			CULG							0205	0216	1	SWF
			CULG				0403						IIIB,W
	0557	0910	BLEN				0616.2	0616.5	1				IIIG
	0546	1645	WEIS				0643.0	1554.0	2				IIIN
	0718	0730	CULG										
			BLEN	0734	0810	1	0734	0810	1				I
	0600	1400	OWIN	0900.5		1							IIIB
	1016	1632	BLEN	1123.1	1124.9	1	1122.9	1124.9	2				IIIG
			BLEN	1124.8	1125.7	1							IIIG
			BLEN	1239.2	1240.6	2	1239.2	1241.2	2				IIIGG
			WEIS				1239.3	1241.4	3				IIIG
			BLEN	1256.6	1310.3	2	1256.6	1310.3	2				IIIGG,RS
			WEIS				1259.1	1302.3	2				IIIG
			BLEN	1442.1	1442.2	2							IIIG
			BLEN				1450.6	1452.3	2				IIIG
			BLEN	1526.9	1527.1	1	1526.9	1527.1	2				IIIG
			WEIS				1527.0	1527.0	3				IIIB,U
	1313	2255	HARV				1527		3	1527		2	IIIG

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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
23			HARV				1812	1813	2	1812	1813	2	IIIG
	2025	2400	CULG				2027	2109					IS,W
			CULG				2032	2033					IIIG,W
			CULG				2055.5	2056.5					IIIG,W
			CULG				2228.5	2229					IIIG,W
24	0000	0724	CULG				0057	0724					IIIN,W
			CULG				0112.5			0112.5	0113		IIIB,W
			CULG				0126.5		1	0126.5	0127	1	IIIB
			CULG				0139.5	0141	1				IIIGG
			LEAR				0200.0	1014.0	1				B
			LEAR				0246.5	0249.5	2				CONT
			CULG				0302	0348					IN,W
			CULG				0508.5		1	0508.5		1	IIIB
			CULG				0509.5	0510.5	2	0509.5	0510.5	1	IIIG
			CULG				0512.5	0513.5		0513			IIIG,W
	0546	1437	WEIS				0622.0	1547.0	2				IIIN
			LEAR				0633.5	0636.1	1				CONT
	0603	0910	BLEN	0651	1632	D 2	0651	1632	D 2				I
			CULG				0655.5	0659.5	2				IIIGG,V
	1445	1643	WEIS				0655.7	0700.3	3				IIIGG
			BLEN	0656.4	0658.1	2	0656.0	0658.5	3				IIIGG
	0725	1630	DWIN	1007.1	1007.7	1							IIIG
	1016	1151	BLEN				1120.4	1127.9	2				IIIG
			BLEN				1146.8	1147.2	1				IIIG
	1313	2300	HARV				1618	1624	2				IIIGG
	1441	1632	BLEN	1619.5	1624.2	3	1617.7	1625.8	3				IIIGG
			WEIS				1619.6	1619.7	2				IIIG
			WEIS				1623.6	1624.2	2				IIIG
			WEIS				1625.6	1626.1	3				IIIG
			HARV				1625	1626	2	1625	1626		IIIG
			HARV				1640	2240	1				INW
			PALE				1830.0	0400.0	1				B
			HARV				1841		1	1841		1	IIIBW
	2024	2400	CULG				2034	2128					IS,W
			CULG				2224.5						IIIB,W
25			LEAR				0200.0	1015.0	1				B
	0000	0724	CULG				0327.5	0328	1	0327.5	0328	1	IIIG
			CULG				0412	0601					IS,W
			CULG				0459	0500	2	0459.5		1	IIIG
			CULG				0502	0503					IIIG,W
	0600	1630	DWIN										
	0603	1632	BLEN	0603	1110	1	0603	1110	1				I,N
	0547	1641	WEIS				0608.0	1639.0	1				IIIN
			CULG				0617.5	0620.5					IIIG,W
			BLEN				1113.7	1114.0	1				IIIG
			BLEN	1127.3	1135	1	1127.3	1135	1			IV	
			BLEN				1138.7	1140.7	2				IIIG
			BLEN	1154.2	1154.2	2							IIIB
			BLEN	1309.7	1309.9	1							IIIG
			BLEN				1346.3	1347.2	2				IIIG
			WEIS				1459.8	1500.8	3				IIIG
	1313	2245	HARV				1500		3				IIIB
			HARV				1807	1808	1				IIIG
			HARV				1811	1813	3	1811	1813	3	IIIGG,V
	2024	2400	CULG				2039						IIIB,W
			CULG				2136.5	2137					IIIG,W
			CULG				2148.5		1	2148.5		1	IIIB
26	0000	0724	CULG				0123	0724					IIIN,W
			CULG				0601	0724					IN,W
			LEAR				0624.3	0625.1	1				CONT
			LEAR				0635.5	0641.3	2				CONT
	0549	1241	WEIS				0705.7	0707.3	2				IIIG
	0605	1625	BLEN	0706.1	0707.4	3	0706.1	0707.4	3				IIIGG,RS
			CULG				0706.5	0707.5	1				IIIG
			BLEN	0732.8	0733.1	1	0732.8	0733.1	1				IIIG
			BLEN	0815.4	0825.7	2	0815.4	0825.7	2				IIIGG,RS
			WEIS				0815.4	0816.3	2				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
26			BLEN				1104.4	1104.5	2				IIIB
			BLEN	1241.2	1241.2	1	1241.2	1241.2	1				IIIB
			BLEN	1252.0	1255.3	3	1252.0	1255.3	3				IIIGG
	1244	1639	WEIS				1253.5	1255.3	3				IIIG
			BLEN	1311.2	1319.3	3	1311.2	1316.4	3				IIIGG,RS
			WEIS				1311.4	1312.2	3				IIIG
			WEIS				1315.6	1316.7	3				IIIG
	0600	1630	OWIN	1315.6	1315.9	1							IIIG
	1313	2310	HARV				1316		3				IIIG,V
			BLEN	1337.2	1357.5	3	1334.0	1357.8	3				IIIGG
			WEIS				1337.2	1339.1	3				IIIGG
			HARV				1337	1339	2				IIIGG
			WEIS				1344.7	1347.9	3				IIIGG
			HARV				1345	1348	2				IIIGG
			WEIS				1431.1	1431.7	2				IIIG
			WEIS				1527.4	1532.8	3				IIIGG
			HARV				1528	1532	2	1528	1532	2	IIIBB,V
			BLEN	1531.4	1532.0	1	1527.6	1532.7	2				IIIGG
			HARV				1658	1659	3	1658	1659	3	IIIG,V
			HARV				1831	1834	3	1831	1834	3	IIIG,V
			HARV				1847		3	1847		3	IIIG,V
			HARV				1856	1857	3	1856	1857	3	IIIG,V
			HARV				1903	1907	3	1903	1907	3	IIIGG,V
			HARV				1952		1	1952		1	IIIB
			HARV				2005		2	2005		3	IIIG,V
			HARV				2010	2013	3	2010	2013	3	IIIGG,V
			HARV				2018	2025	3	2018	2025	3	IIIGG,V
	2023	2400	CULG				2023	2400					IS,W
			CULG				2025		2				IIIB
			CULG				2027	2400					IIIN,W
			PALE				2101.6	2101.9	1				III
			CULG				2142	2144.5	3	2142.5	2144.5	2	IIIGG,V
			HARV				2142	2147	3	2142	2147	3	IIIGG,V
			CULG				2145	2147	3	2145.5	2147	2	IIIGG
			CULG				2147.5	2148	1				IIIG
			CULG				2216.5	2217.5	1				IIIG
			CULG				2221.5	2222	2				IIIB
			HARV				2222		2				IIIB
			CULG				2224.5	2225	1				IIIG
			CULG				2311	2312	1				IIIG
			CULG				2317.5		2				IIIB
			CULG				2321	2322	3	2321	2322	2	IIIG
27	0000	0723	CULG				0000	0035					IS,W
			CULG				0009	0723					IIIN,W
			CULG				0014.5		1	0014.5		1	IIIB
			CULG				0035	0723					IN,W
			CULG				0241.5	0242	3	0241.5	0242	3	IIIG
			LEAR				0348.4	0349.3	2				V
			CULG				0350.5	0351	1				IIIG
			CULG				0401.5		1				IIIB
			CULG				0403.5	0405.5	1				IIIGG
			CULG				0450	0450.5	1				UNCLF
			LEAR				0459.3	0459.5	1				CONT
			LEAR				0539.7	0541.2	2				V
			LEAR				0552.3	0552.8	1				CONT
			CULG				0659	0706					POSS CONT
	0600	1039	OWIN	0702	0705	1						IV	W
			CULG				0707.5	0708	1				IIIG
	0649	1637	WEIS				0710.0	1542.0	2				IIIN
			CULG				0710		2				IIIB
			WEIS				0733.7	0734.7	2				IIIG,U
			OWIN	0840.7	0842.0	1						IV	
			OWIN	1019.5	1021.5	1						IV	
	1105	1630	OWIN	1214.9	1215.2	2							IIIG
	1313	2246	HARV				1313	2246	1				IN
			HARV				1453		2	1453		1	IIIG
			HARV				1535	1541	2				IIIGG
			HARV				1623	1624	1				IIIG
			HARV				1658		2	1658		2	IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
27			HARV				1716	1717	2	1716	1717	1	IIIG
			HARV				1725	1730	3	1726	1730	3	IIIGG,V
			HARV				1813		1				IIIBW
			PALE				1855.5	1907.1	1				S
			HARV				1927	1928	3	1927	1928	3	IIIG,V
			HARV				2019		2				IIIG
	2023	2400	CULG				2023	2050					IS,W
			CULG				2039	2039.5	3				IIIG
			HARV				2039		3	2039		3	IIIG
			CULG				2050	2400					IN,W
			CULG				2153.5	2154					IIIG,W
			CULG				2153.5		2				IIIB
			HARV				2154		2				IIIB
			CULG				2214	2400					IIIN,W
			CULG				2224	2224.5	1				IIIG
			CULG				2321		1				IIIB
28	0000	0723	CULG				0000	0615					IN,W
			CULG				0001.5	0002.5					IIIG,W
			CULG				0055						IIIB,W
			LEAR				0200.0	1016.0	1				B
			CULG				0215.5	0216	2	0215.5	0216	1	IIIG
			LEAR				0305.8	0306.5	2				V
			CULG				0331		1				IIIB
			CULG				0348.5	0349					IIIG,W
			CULG				0354						IIIB,W
			CULG				0357.5						RS,DP
			CULG				0358		2				IIIB
			CULG				0535.5						IIIB,W
			LEAR				0600.0	0600.4	2				V
	0600	1630	DWIN	0614.4	0614.5	1							IV
			CULG				0615	0723					IS,W
	0551	1107	WEIS				0629.0	1543.0	2				IIIN
			CULG				0658						IIIB,W
	1122	1635	WEIS				0757.9	0758.9	2				IIIG
	1313	2305	HARV				1313	2305	1				INW,IIINW
	1040	1607	BLEN	1439.7	1440.8	1	1439.7	1440.8	2				IIIG
			BLEN	1532	1607 D	1	1532	1607 D	1				I
			HARV				1532		2	1532		1	IIIG
			HARV				1542		2				IIIG
			HARV				1757		1				IIIB
	2024	2400	CULG				2024	2400					IS,W
			CULG				2028	2400					IIIN,W
			PALE				2035.7	2036.7	2				V
			PALE				2102.3	2103.5	1				III
			CULG				2149	2150					UNCLF
			CULG				2152.5	2153	3				IIIG
			HARV				2153	2157	3				IIIG
			CULG				2157		1				IIIB
			PALE				2319.8	2322.1	2				V
			CULG				2332	2332.5	2				IIIG
29	0000	0723	CULG				0000	0723					IS,W
			CULG				0011	0647					IIIN,W
			PALE				0012.8	0013.1	2				V
			LEAR				0201.8	0247.1	1				S
			LEAR				0238.8	0241.5	2				CONT
			LEAR				0317.6	0318.1	1				CONT
			LEAR				0336.5	0347.5	2				S
	0552	0809	WEIS				0603.0	1633.0	2				IN
			LEAR				0612.0	1016.0	1				B
	0612	1610	BLEN	0612 E	1610 D	2	0612 E	1610 D	2				I,DC
	0915	1633	WEIS				0623.0	1633.0	2				IIIN
			BLEN	0824.2	0829.5	1	0824.2	0829.5	1				IIIGG
			BLEN	1028.1	1028.6	2							DCIM
	0600	1630	DWIN	1028.3	1028.6	1							IIIG
			BLEN	1044.2	1045.3	2	1044.2	1045.3	2				IIIGG
			WEIS				1044.3	1045.9	2				IIIG
	1313	2245	HARV				1313	2245	1				I
			HARV				1349	1354	2				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1979

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
29			HARV				1410	1531	2				I
			BLEN	1504.6	1505.3	1	1504.6	1505.3	1				IIIGG
			HARV				1531	1706	3				I
			HARV				1628	1634	2				IIIG
			HARV				1706	1824	2				I
			HARV				1824	2245	1				I
			PALE				1937.1	1942.5	2				V
			PALE				2018.0	2018.6	1				III
			PALE				2019.8	2020.2	1				III
	2023	2400	CULG				2023	2051					IIIN,W
			CULG				2023	2400	1				IS,DC
			CULG				2051	2400					IIIS,W
			CULG				2123	2136	1				IIIN
			CULG				2220.5	2221	1				IIIG
			CULG				2336	2337	1				IIIG
30	0000	0723	CULG				0000	0123	1				IS,DC
			CULG				0000	0125					IIIS,W
			CULG				0009		2				IIIB,U
			CULG				0010.5		1				IIIB
			PALE				0115.9	0116.8	2				V
			CULG				0123	0524					IS,W
			CULG				0125	0723					IIIN,W
			LEAR				0200.0	1016.0	1				B
			CULG				0318.5		2	0318.5		1	IIIB
			CULG				0318.5	0320	1				IIIG
			CULG				0432		1				IIIB
			CULG				0524	0624	1				IS,DC
			CULG				0528.5	0529	1				IIIG
	0554	1134	WEIS				0550	1617	2				IS,DC
	1148	1631	WEIS				0608	1615.0	2				IIIN
			CULG				0624	0723	2				IS,C,DC
			CULG				0713	0723					SCINT
	0600	1505	DWIN	0803.9	0807.3	1						IV	
			BLEN	0804	0807.8	1	0804	0807.8	1				DCIM
			LEAR				0833.3	0835.2	2				CONT
			WEIS				1111.5	1113.5	3				IIIG
			DWIN	1129	1138.5	1						IV	P
			BLEN	1130.2	1137.0	2							DCIM
			BLEN	1143.3	1143.6	2							IIIG
			BLEN	1156.7	1157.3	2	1157.1	1157.6	1				IIIG
			DWIN	1156.8	1157.5	1						IV	
	1313	2245	HARV				1313	1800	1				I
	0615	1610	BLEN	1400	1610 D	2	0615 E	1610 D	2				I
			HARV				1439	1600	2				IIIN
			BLEN				1604.0	1604.3	2				IIIG
			WEIS				1604.0	1605.2	2				IIIG
			HARV				1604	1605	3	1604	1605	2	IIIG
			HARV				1631		1				IIIG
			HARV				1646	1647	1	1646	1647	1	IIIG
			HARV				1701	1704	3	1701	1704	3	IIIGG
			HARV				1712		2	1712		3	IIIG
			HARV				1800	2150	2				I
			HARV				1811	1812	2				IIIG
			HARV				1901	1911	1	1901	1911	1	IIIG
			HARV				1948	1950	3	1948	1950	3	IIIGG
			HARV				2014		2	2014		1	IIIG
			CULG				2023	2212					IS,W
	2023	2400	CULG				2023	2156					IIIN,W
			CULG				2110	2111.5	1				IIIGG
			HARV				2150	2245	3				I
			CULG				2156	2240					IIIS,W
			CULG				2157.5	2200.5	1				IIIGG
			CULG				2212	2241	1				IS,DC
			CULG				2213.5	2214	1	2213.5		1	IIIG
			PALE				2235.0	2239.6	1				CONT
			CULG				2240	2300	2				IIIS
			CULG				2241	2400	2				IS,C,DC
			CULG				2245						POSS RS,DP
			CULG				2300	2400	1				IIIS

ERRATA: The June 1979 spectral data reported by the Harvard Radio Astronomy Station (HARV) and published in SGD 420 Part I, pages 139-154 (August 1979 issue), contain three transcription errors in the spectral type. Data entries that need to be changed are the following:

(1) IIG,V should read IIIG,V for the 17 June 1305 UT entry on page 148
(2) IIG,N should read IIIG,N for the 17 June 1634 UT entry on page 148
(3) IIB,W should read IIIB,W for the 27 June 1823 UT entry on page 152

The April 1979 spectral data reported by the Harvard Radio Astronomy Station (HARV) and published in SGD 420 Part II, pages 72-74 (August 1979 issue), contain two transcription errors in the spectral type. Data entries that need to be changed are the following:

(1) IIG should read IIIG for the 10 April 2042 UT entry on page 72
(2) IIN,W should read IIIN,W for the 12 April 1330 UT entry on page 72

COSMIC RAY INDICES
(Neutron Monitors)

Sep. 1979	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	CALGARY Average (cts/h)/100	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	KULA Average (cts/h)/100	HUANCAYO Average (cts/h)/100
1	4075.6	6675.2	6237.7		5678.0	3706.6	3541.7		
2	4124.4	6754.8	6293.0		5733.6	3720.0	3547.1		
3	4200.5	6887.3	6439.3		5867.2	3851.3	3584.9		
4	4211.2	6894.0	6480.0		5871.2	3873.9	3591.0		
5	4204.9	6882.1	6467.4		5870.6	3870.2	3589.9		
6	4209.0	6893.5	6476.0		5877.6	3878.1	3587.8		
7	4231.6	6945.0	6510.5		5884.5	3875.4	3577.8		
8	4253.7	6974.7	6565.0		5916.8	3898.0	3591.1		
9	4268.0	7015.6	6574.7		5936.4	3904.0	3603.5		
10	4237.5	6953.7	6514.4		5901.2	3895.0	3604.2		
11	4275.2	7012.7	6534.3		5929.4	3902.8	3608.3		
12	4245.0	6946.8	6535.0		5916.9	3909.3	3604.7		
13	4217.3	6898.2	6447.0		5882.0	3853.3	3575.1		
14	4192.2	6870.5	6430.7		5849.8	3838.6	3559.1(18)		
15	4144.0	6795.4	6355.8		5765.9	3769.3	3541.0		
16	4101.9	6732.3	6303.9		5727.6	3732.7	3524.3		
17	4014.8	6582.1	6164.8		5589.6	3636.8	3485.9		
18	3979.5	6511.6	6057.2		5470.1	3607.9	3488.0		
19	3887.3	6355.0	6011.3		5446.0	3534.2	3467.8		
20	3859.3	6315.8	5946.6		5388.4	3489.4	3464.8(23)		
21	3854.1	6340.5	5938.8		5427.3	3501.7	3465.5		
22	3905.6	6405.1	6024.3		5460.4	3530.7	3471.5		
23	3932.1	6444.6	6073.2		5508.0	3547.2	3482.9		
24	3968.0	6505.0	6142.8		5568.2	3603.3	3511.3		
25	4021.8	6563.1	6189.8		5615.0	3655.7	3531.4		
26	4053.5	6610.2	6244.1		5652.9	3698.3	3538.7		
27	4094.9	6673.1	6301.7		5688.8	3740.0	3538.0		
28	4109.4	6700.9	6327.1		5738.0	3771.2	3554.5		
29	4138.6	6739.3	6316.7		5739.0	3757.3	3546.0		
30	4159.6	6789.3	6366.5		5790.8	3785.4	3568.5		
MEAN	4105.6	6722.2	6309.6		5723.0	3744.8	3544.9		

Data not available at time of publication.

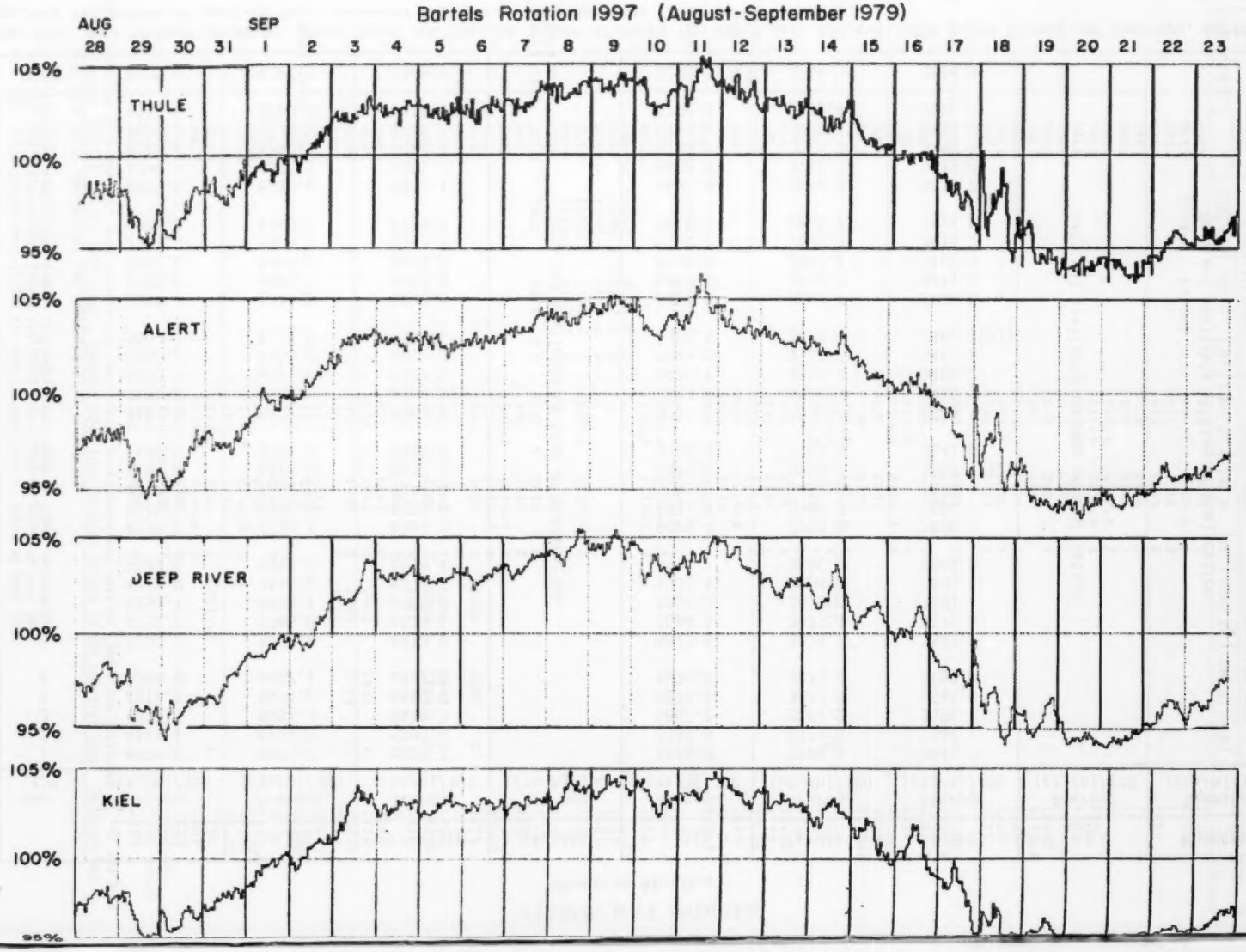
Data not available at time of publication.

Data not available at time of publication.

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

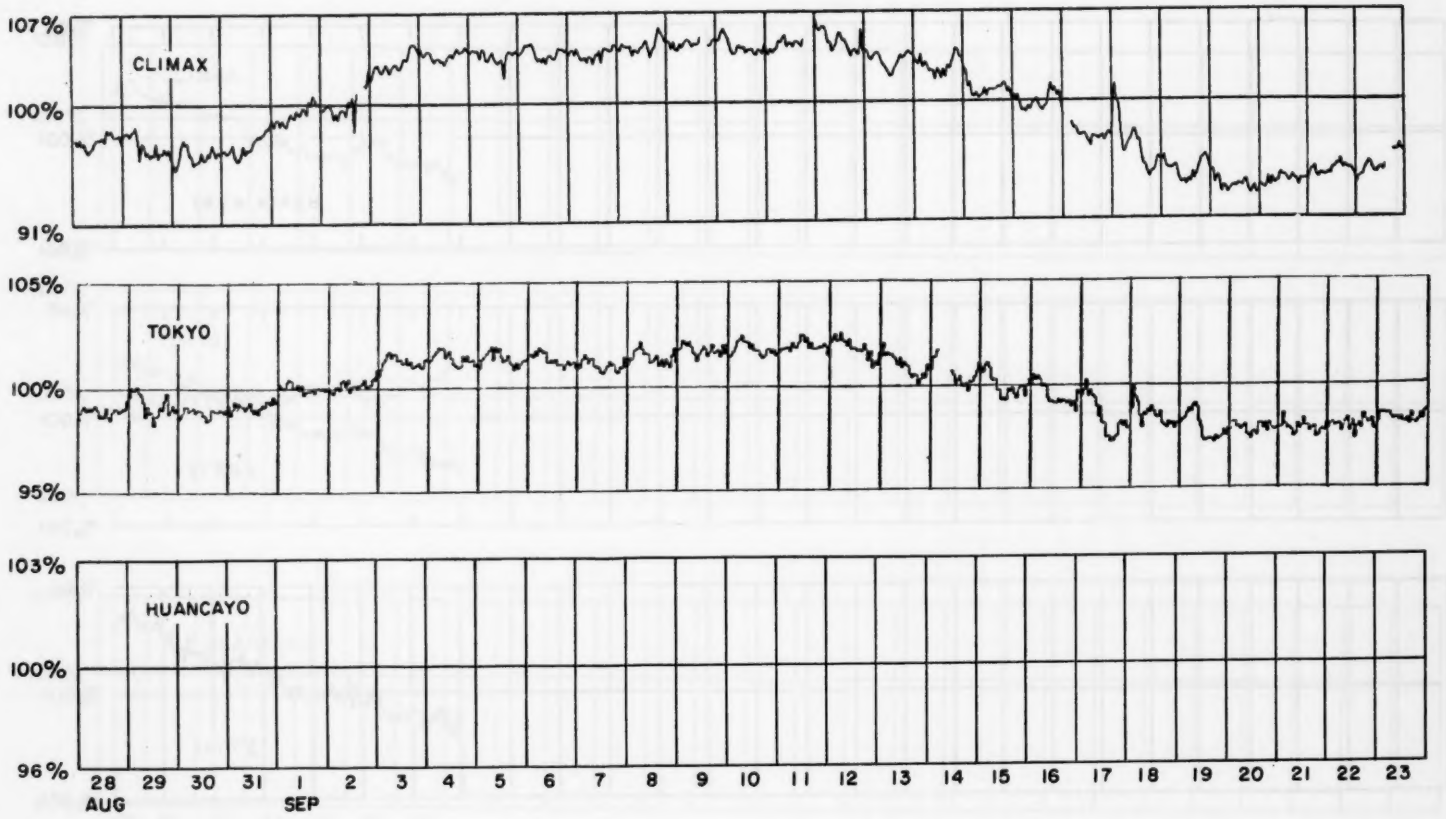
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1997 (August-September 1979)



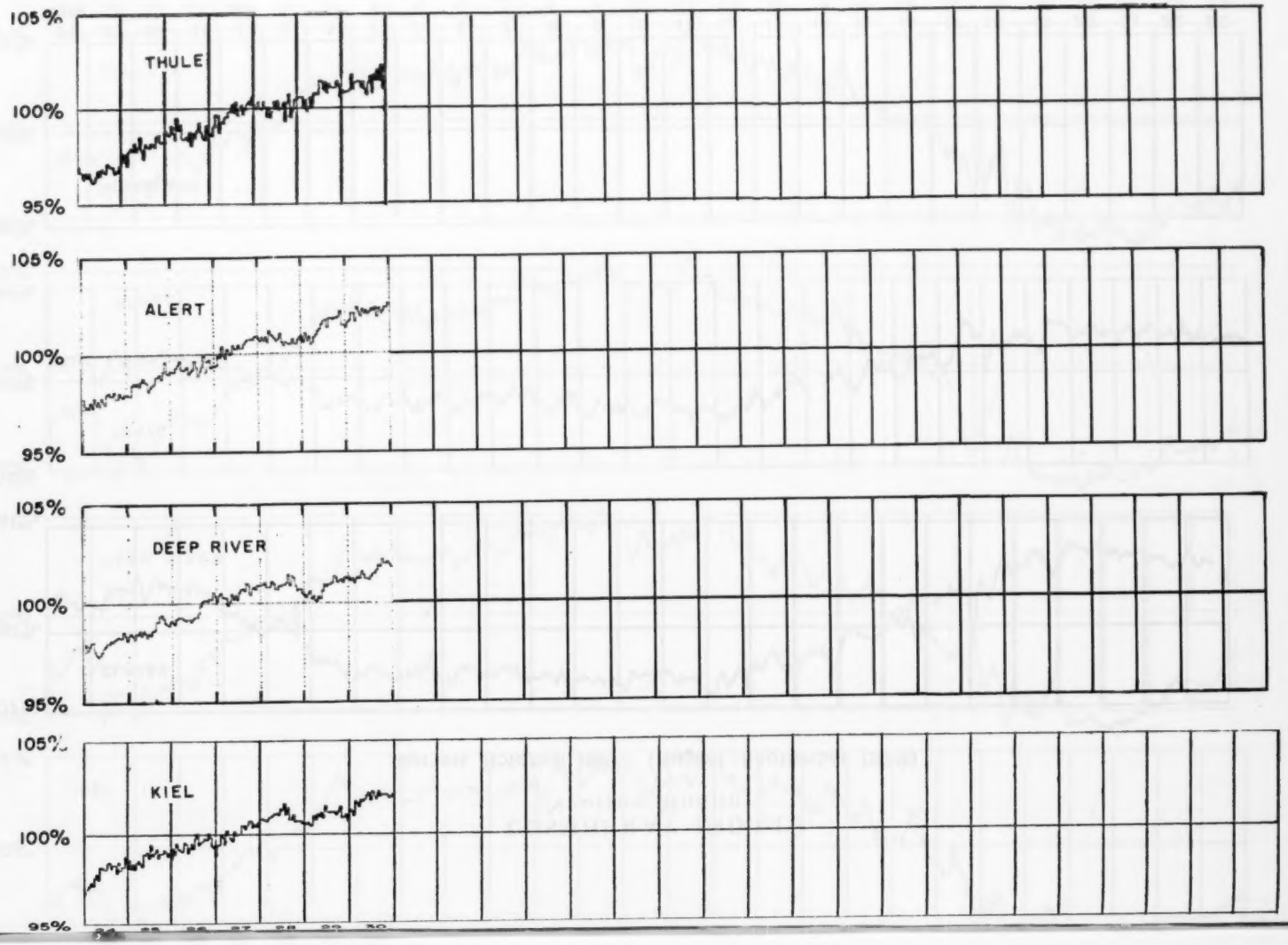
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1997 (August - September 1979)



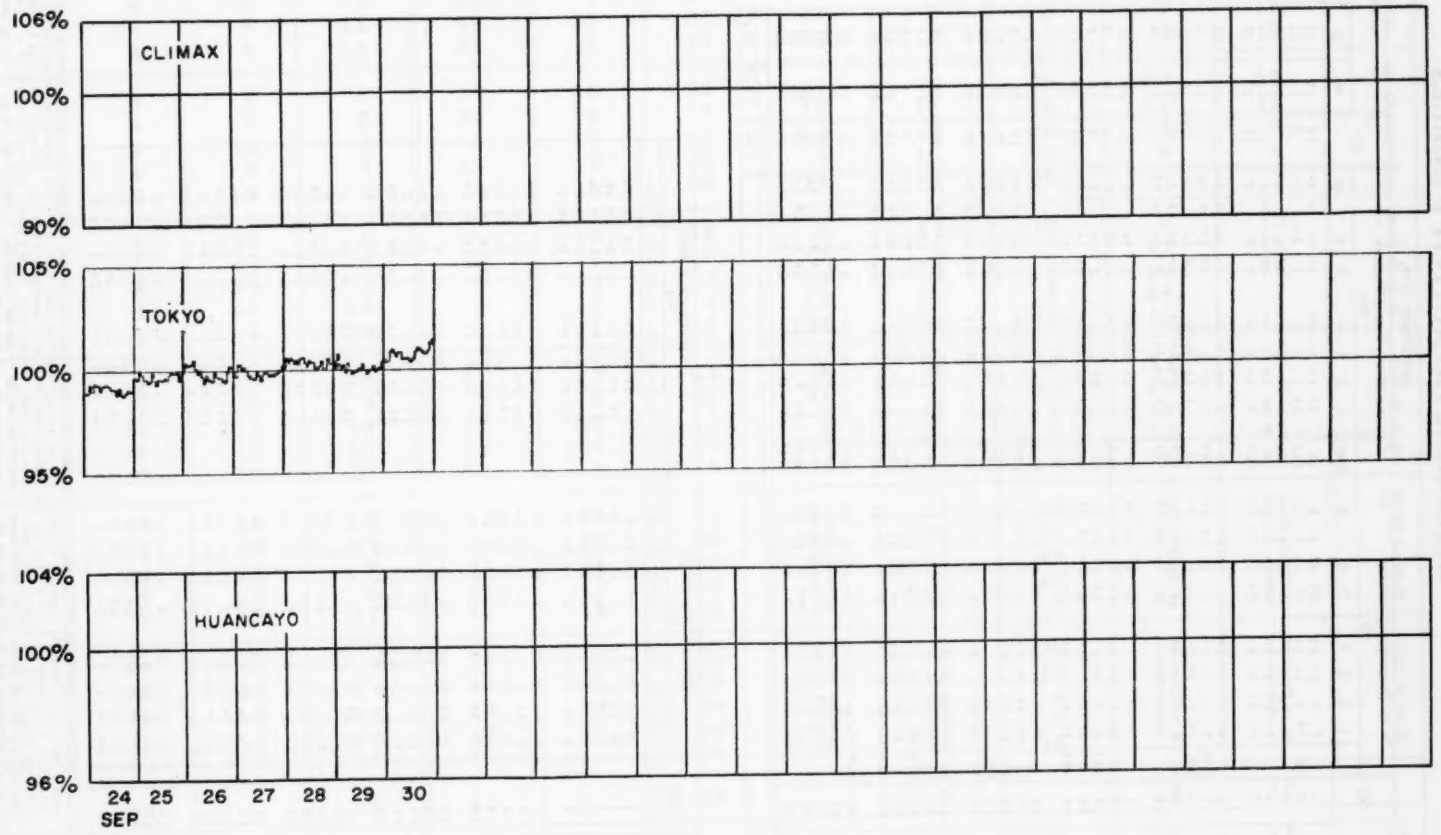
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1998 (September 1979)



COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1998 (September 1979)



GEOMAGNETIC ACTIVITY INDICES

SEPTEMBER 1979

Day		Three-Hourly Indices Kp									Three-Hourly Indices Km								Ap	aa *					Cp
		1	2	3	4	5	6	7	8	Sum	1	2	3	4	5	6	7	8		N	S	M			
1		2	1	1-	1+	2-	2+	4	3	16	2-	1-	1-	2-	1+	2-	3+	3-	10	19	13	6	25		0.5
2	Q2	2+	1	1+	1+	1	2-	1	2-	11+	2+	1	1	1	1	2-	1	2-	5	11	11	10	12	C	0.2
3		3+	2+	2+	2+	3-	1+	2+	1	18-	3	2	2+	2	3-	1	2	1	9	17	15	18	15		0.5
4		1	2+	3	3-	2+	3-	3	2	19	0+	2+	3	2+	2+	3-	3-	2	10	20	18	17	22		0.6
5		4-	3+	3-	3	3+	3+	4-	3-	26-	3	3-	2	3-	3	3	4	3	17	33	26	22	38		0.9
6		4-	4+	3+	2+	3	3-	1-	2-	22-	3	4-	3+	2+	3-	3-	1-	2-	15	29	20	31	19		0.8
7	Q3K	2	3	1+	1-	1-	1-	1+	1-	10+	2+	3-	1	1-	1-	1-	1+	1-	6	11	9	11	9	CK	0.2
8	Q4	1+	1	3-	2	1+	1	2	2-	13	1+	1+	3-	2+	1+	1+	2	2-	6	14	12	14	12	CC	0.3
9	Q1	2	1+	2-	0+	1	1	1+	2-	10+	2	2-	2-	0+	1-	1+	1+	2	5	13	10	10	13	CC	0.2
10		2+	3-	1+	2	2-	3-	2+	2+	17+	2+	3-	2-	2+	2	3-	3-	2+	9	15	19	17	18		0.5
11		2+	2-	3-	4	3	4-	2+	2+	22	2-	1+	3-	4-	3	3+	2	2	14	26	22	20	28		0.8
12	Q9A	3-	1	1-	1-	1+	2	2+	4-	14+	2+	1	1-	0+	1+	2-	2+	3	8	18	8	8	18	K	0.4
13	Q8A	3	3	1-	1	2+	1+	1+	2+	15	2+	2+	1	1	2	1+	1	2	8	20	8	14	14		0.4
14		1+	1+	2	1+	0+	2-	4+	3+	16-	1+	1+	1+	1+	0+	1+	3+	3	10	20	11	9	23		0.6
15	Q0A	3-	2	1	2+	3-	2	2	2-	16+	3-	2-	1+	2+	2+	2-	1+	2-	8	18	13	15	16		0.4
16		3+	3	2+	4-	3+	2+	2	3+	23+	3	2+	2	3-	3	2	2-	3-	14	25	17	26	17		0.8
17		3-	2+	2-	2+	2	3-	2-	4	19+	2	2	2-	2+	2	2+	2-	4-	11	20	19	14	26		0.6
18	Q1	6-	5-	7	6+	6-	6	4	2+	42-	5-	5-	6	6	6-	5+	3+	3-	64	66	97	101	63		1.7
19	Q5K	2-	1+	1	1	1+	1	3-	3-	13-	2-	1+	1	1	1	1-	2	3-	6	11	11	9	13	C	0.3
20	Q3	3+	2-	2	3-	5	5	2+	4	26	3-	1	2	2+	4+	4+	2+	3+	22	35	34	18	51		1.1
21	Q2	5	5+	4-	2+	3-	2	3+	3-	27	4+	4+	3-	2+	2+	1+	3-	3-	23	38	26	45	20		1.1
22	Q6	3-	2+	1-	1	2+	2-	1+	1	13	3-	2-	0+	1+	2+	1+	1	1+	6	12	13	12	14	K	0.3
23	Q7A	2-	2+	2-	1-	2+	3-	1+	1	14-	2	2	1+	1-	2	2+	1+	1-	7	9	15	11	13	C	0.3
24		1-	3+	2+	3+	4	3-	2+	4	23-	1	3-	2	3	4-	3-	2+	3+	15	29	25	20	34		0.9
25	D5*	4	4	3+	1+	2	4	4-	3+	26-	3+	3	3	1	1+	4-	3+	3+	19	29	26	26	29		1.0
26	D4*	4-	4-	3+	3-	3+	3+	4	3+	27+	3+	3	3	2+	3	3	4-	3	19	31	32	26	37		1.0
27		3+	5-	2+	2+	3-	3-	3-	2	23-	3-	4-	1+	2	3-	2+	3-	2	15	23	18	22	20		0.8
28		2+	4	4	2+	2	3-	3+	4-	24+	2	3+	3	2+	2+	3-	3	3+	16	23	30	23	30		0.9
29		4-	4-	3-	2-	4-	3	2+	3-	23+	3+	3	2	1+	3+	3	2+	3-	15	25	25	21	29		0.8
30		4-	4+	4-	3-	3-	3+	2	3	25+	3+	3+	3	2	2+	3	2	3	18	26	19	26	20		1.0
																			14	22.9	20.7	22.0			0.66

Day	Three-Hourly Indices Kn								Three-Hourly Indices Ks							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	2-	0+	1-	2	2-	2-	3+	3	2	1+	0+	1+	1	1+	3+	2+
2	2+	1-	1	1+	1	2	1	2-	2+	1+	1-	1-	1+	2-	1-	1+
3	3	2-	2	2	3-	1+	2+	1+	3	2	3-	2	2+	1-	2-	1
4	0+	2+	3-	3-	3-	3	2+	2+	1-	2+	3	2+	2	2+	3-	2
5	3	3-	2+	3-	3	3+	4-	3-	3-	3	2	3-	3	3-	4+	3
6	3	4-	3-	3-	3	3-	1	2-	3	4-	4-	2+	2+	2+	1-	1+
7	2	2+	1	1	1-	1-	1+	1-	2+	3-	1	0+	1-	1	1+	1-
8	1+	1	3-	2+	1+	2-	2+	2-	1+	2-	3-	2+	1+	1-	2-	2-
9	2-	1+	1+	1-	1	1+	1+	2+	2+	2	2-	0	0+	1+	1+	2-
10	2	2+	2-	2+	2	3-	3-	2	3-	3-	2-	2+	2	2+	3-	2+
11	2-	1+	3-	4-	3	3+	2+	2	2	2-	3-	4-	3-	3	2-	2
12	2	1-	1	1-	1+	2	2+	3+	3-	1+	1-	0	1-	2-	2+	3-
13	2+	2+	1	1+	2+	1+	1+	2+	2+	2	1	1	2	1	1-	2
14	1	1	2-	1+	0+	2-	4-	3	2-	1+	1+	1+	0+	1-	3+	3+
15	2+	1+	1	2+	2+	2	2-	2-	3	2+	1+	2+	2	1+	1	1+
16	3-	2+	2	3-	3	2+	2-	2+	3+	2+	2	3-	3	2-	1+	3
17	2-	2	2	2+	2+	3-	2	3+	2	2	2-	2+	2	2	1+	4
18	5-	4	6	6	5+	5	4-	3-	5-	5+	6	6	6-	5+	3	2+
19	2-	1+	1+	1	1+	1	2+	3-	2	1+	1	1	1-	0	2-	3-
20	2+	1	2-	3-	5-	4+	2+	3+	3-	1+	2	2+	4	4	2+	3+
21	4	5-	3	2+	2+	2-	3-	3-	5-	4	3-	3-	2+	1+	3-	3-
22	2+	2-	1-	1	3-	1+	1	1+	3-	2-	0+	1+	2	1+	1	1+
23	1+	2-	2-	1-	2	2+	1+	1-	2+	2+	1+	1-	2	2+	1+	1-
24	1-	3-	2-	3	4	3-	2	3+	1+	3-	2	3	3	3-	2+	3
25	3	3	3	1	1+	4-	4-	3	4-	3	3	1	1+	4-	3+	4-
26	3+	3-	3	2+	3	3	4-	3	3+	3	3	3-	3+	3-	4-	3
27	3-	4	1+	2	3-	3-	3-	2+	3-	4-	2-	2	3-	2+	2+	2
28	2	3+	3	2+	2+	3-	3	3+	2	3+	3	2	2	3-	3-	3
29	3+	3-	2	1+	3+	3	2+	3-	3+	3	2	1+	3+	3-	2+	3
30	3+	3+	3	2	3-	3	2	3	4-	4-	3	2+	2+	3	2-	3

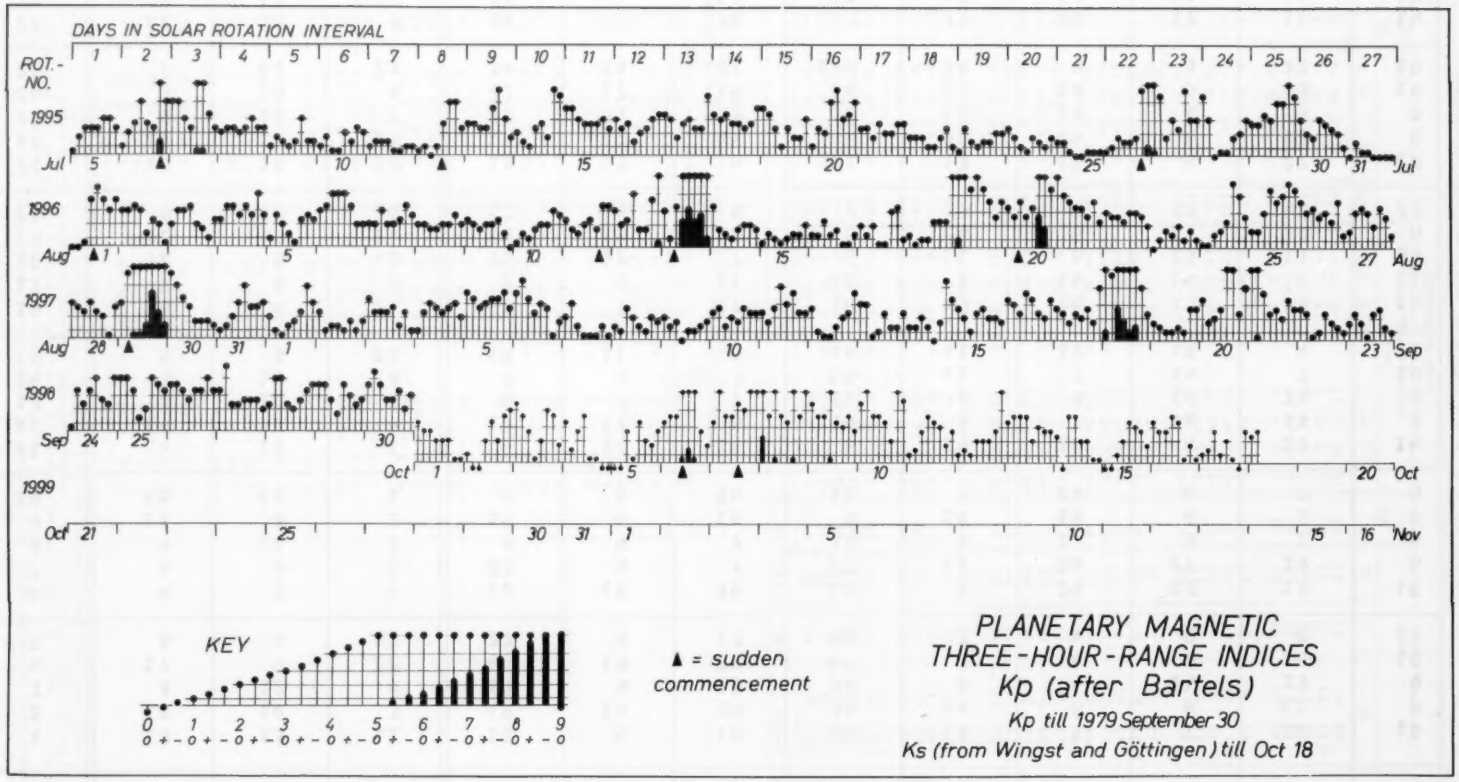
Quiet days (Q) and disturbed days (D), geomagnetic planetary three-hour-range indices (Kp) (integers alone are equivalent to those normally given with a small zero), magnetic character figures (Cp), and average amplitude (Ap) (unit 2 nT) are prepared by Geophysikalisches Institut at the University of Göttingen, F.R. of Germany for the International Service of Geomagnetic Indices. Ten most quiet days [Q1-Q0(10)] and five most disturbed days [D1-D5] are ordered from most quiet or disturbed, respectively. A or K means "not really quiet" (A = "Ap>6", K = "Ap≤ 6 but one Kp≥ 3o or two Kp values ≥ 3-"). An asterisk means "not really disturbed" (Ap<20).

Geomagnetic three-hourly indices Kn, Ks and Km as in *IAGA-Bulletin No. 32* and indices aa ("antipodal") as in *IAGA-Bulletin No. 33* are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. Really quiet (C) and quiet but slightly disturbed three-hourly intervals (K) are given for 24-hour and 48-hour intervals centered on 1200 UT.

DAILY AVERAGE INDICES Ap

	1978			1979								
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	13	11	10	6	12	33	18	5	7	15	10
2	12	10	3	19	10	20	36	14	6	4	11	5
3	8	12	5	19	9	13	54	6	4	14	10	9
4	17	5	12	45	19	27	47	7	6	9	15	10
5	8	6	10	23	9	13	52	7	4	9	8	17
6	4	2	5	18	16	30	12	6	34	22	18	15
7	4	9	2	32	6	7	12	11	26	27	10	6
8	5	14	3	8	9	7	12	8	14	9	7	6
9	11	8	3	15	9	15	9	14	15	6	6	5
10	15	16	1	4	6	54	12	7	14	6	7	9
11	5	10	1	4	12	18	6	19	10	4	10	14
12	14	53	4	10	17	6	15	9	7	11	18	8
13	8	22	7	5	3	7	11	8	8	16	76	8
14	5	11	28	8	2	3	15	11	7	14	7	10
15	5	8	28	15	11	8	18	11	10	15	4	8
16	4	6	14	12	7	11	16	5	16	11	5	14
17	5	6	9	7	5	21	11	3	14	14	8	11
18	32	5	48	11	22	7	6	11	6	15	11	64
19	22	13	24	19	15	11	6	24	6	11	35	6
20	9	22	26	12	6	6	2	13	8	18	42	22
21	13	16	12	11	59	4	21	13	15	9	22	23
22	10	28	19	14	33	45	45	36	24	6	12	6
23	6	12	7	27	31	12	23	11	19	6	5	7
24	5	18	6	23	17	15	14	27	10	5	13	15
25	7	60	21	34	14	21	126	34	9	3	22	19
26	18	33	8	28	22	26	12	25	20	17	15	19
27	23	17	14	23	24	18	27	17	10	23	12	15
28	14	5	14	13	17	39	31	11	4	10	10	16
29	16	4	20	13		68	47	30	7	24	77	15
30	25	5	27	16		16	26	10	10	9	15	18
31	20		18	13		19		6		3	12	
MEAN	12	15	13	16	15	19	25	14	12	12	18	14

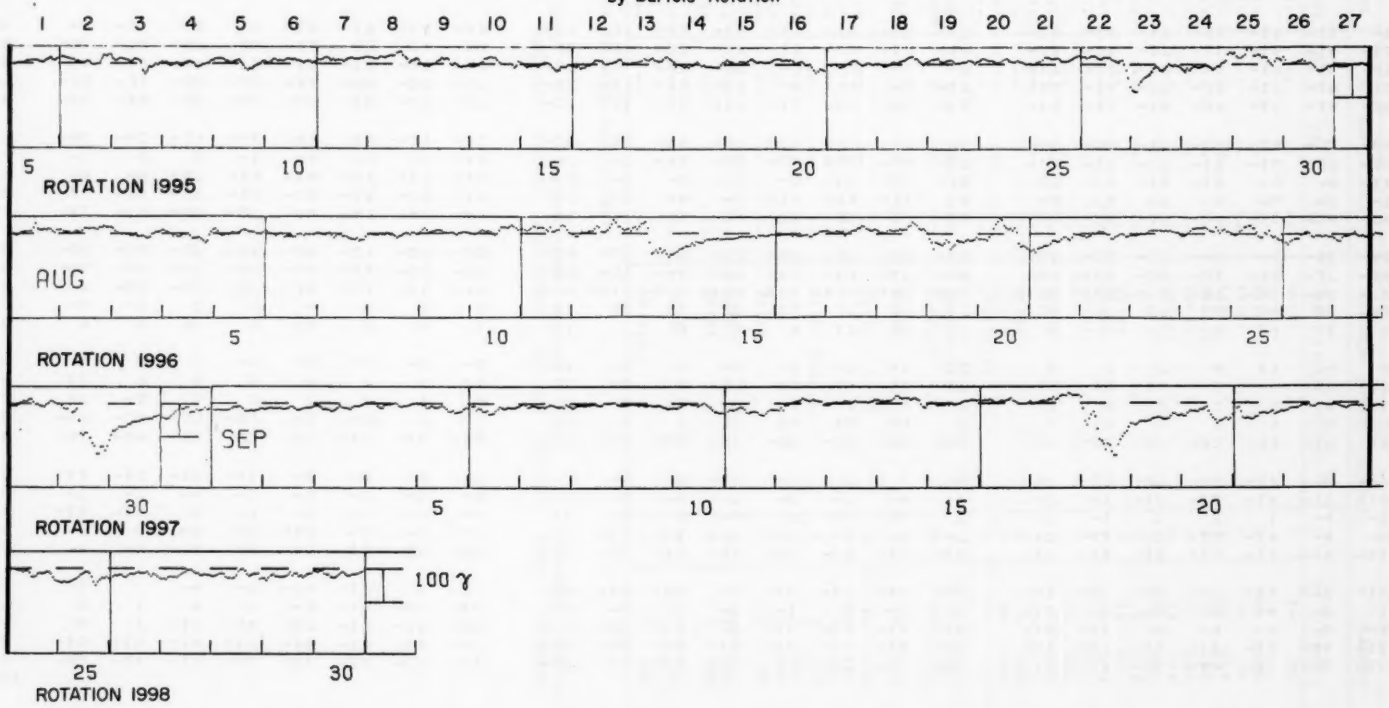
GEOMAGNETIC ACTIVITY INDICES


DAYS IN SOLAR ROTATION INTERVAL
ROT.-NO.
1995
1996
1997
1998
1999
KEY
0 1 2 3 4 5 6 7 8 9
0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0
▲ = sudden commencement
PLANETARY MAGNETIC THREE-HOUR-RANGE INDICES
Kp (after Bartels)
Kp till 1979 September 30
Ks (from Wingst and Göttingen) till Oct 18

GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst

by Bartels Rotation



Note: Both the sensitivity indicator placed on the last day of the month and the zero reference level change from month to month.

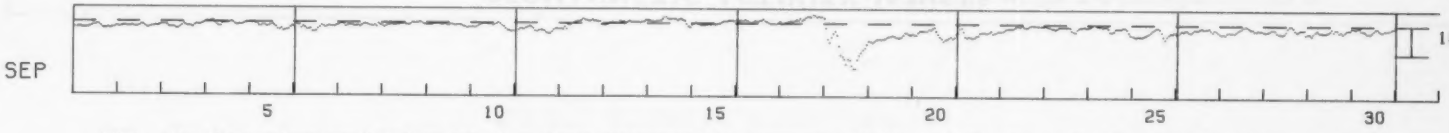
HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

SEPTEMBER 1979

NASA/GODDARD SPACE FLIGHT CENTER

(Time-UT) (Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-20	-21	-19	-20	-21	-21	-21	-20	-18	-14	-11	-12	-9	-11	-16	-23	-24	-23	-21	-24	-21	-20	-16	-15
2	-18	-16	-14	-13	-15	-16	-15	-13	-16	-18	-16	-14	-10	-11	-15	-20	-21	-17	-15	-14	-13	-14	-12	-9
3	-8	-7	-12	-18	-17	-19	-19	-24	-23	-18	-13	-7	-12	-14	-14	-16	-18	-12	-8	-9	-9	-6	-3	1
4	2	1	4	4	-3	-10	-14	-15	-5	-4	-3	-3	-1	1	-2	-9	-12	-9	-9	-8	-4	-2	-1	1
5	-2	0	-4	-7	-14	-14	-9	-11	-14	-14	-10	-7	-12	-17	-25	-26	-22	-30	-28	-27	-24	-17	-13	-14
6	-5	-9	-9	-21	-15	-18	-25	-25	-22	-33	-33	-31	-22	-17	-11	-13	-17	-14	-12	-13	-13	-14	-11	-9
7	-4	0	-5	-13	-12	-8	-8	-10	-13	-12	-11	-14	-10	-6	-5	-7	-10	-12	-13	-10	-14	-4	-8	-11
8	-15	-12	-8	-7	-6	-7	-5	-6	-6	-4	-3	-3	-7	-8	-6	0	0	-1	0	2	1	-4	-7	-8
9	-7	-7	-6	-3	-3	-3	-4	-8	-5	-4	-9	-9	-6	-7	-9	-9	-7	-7	-10	-13	-14	-17	-15	-15
10	-14	-16	-14	-11	-6	-4	-2	-1	-3	-4	-5	-10	-6	-3	1	-4	-10	-13	-20	-20	-27	-30	-29	-30
11	-31	-24	-19	-23	-21	-17	-14	-12	-13	-19	-28	-30	-26	-24	-25	-28	-34	-36	-27	-30	-23	-19	-19	-20
12	-19	-21	-13	-21	-5	-5	0	1	4	6	7	10	15	12	10	7	8	12	8	7	5	5	-5	-6
13	-7	-3	1	2	3	1	1	2	7	5	5	0	4	7	4	3	3	4	3	2	5	6	11	11
14	10	7	7	5	8	7	9	14	22	22	16	12	15	15	14	10	13	15	11	6	-4	-12	-14	-5
15	0	2	3	-4	-8	-6	-6	-6	-1	-5	0	-4	-5	-2	-1	3	6	7	7	9	10	9	8	10
16	9	8	10	8	12	9	4	1	1	7	8	6	9	11	14	7	4	0	-3	-2	-3	-3	0	6
17	-4	-2	2	3	6	8	6	6	12	11	17	10	13	20	24	23	22	30	27	22	24	22	22	17
18	-17	-55	-66	-47	-35	-27	-41	-79	-109	-113	-122	-139	-121	-126	-145	-156	-156	-123	-109	-99	-90	-84	-71	-61
19	-62	-65	-62	-56	-54	-54	-55	-53	-52	-47	-44	-44	-41	-43	-47	-48	-48	-45	-38	-31	-32	-37	-38	-35
20	-38	-39	-35	-24	-24	-24	-25	-25	-19	-20	-15	-12	-25	-37	-45	-51	-61	-54	-52	-46	-44	-51	-46	-34
21	-31	-16	-13	-27	-44	-47	-44	-47	-49	-47	-41	-39	-31	-30	-29	-31	-32	-28	-24	-34	-31	-28	-24	-26
22	-24	-22	-17	-15	-15	-15	-14	-11	-7	-7	-8	-4	-11	-12	-11	-6	-4	-4	-5	-6	-6	-7	-7	-5
23	-5	-8	-10	-13	-14	-17	-13	-10	-9	-9	-8	-10	-9	-11	-21	-25	-27	-16	-12	-10	-9	-8	-11	-10
24	-7	-3	0	-1	-4	-6	-6	-11	-7	-7	-13	-25	-26	-22	-14	-13	-14	-13	-10	-11	-16	-27	-36	-38
25	-40	-43	-39	-41	-42	-39	-37	-33	-30	-25	-19	-15	-11	-11	-14	-26	-41	-51	-41	-34	-28	-30	-25	-30
26	-29	-25	-20	-22	-18	-19	-25	-27	-21	-16	-16	-17	-13	-11	-14	-13	-14	-11	-18	-24	-16	-19	-25	-30
27	-33	-31	-34	-26	-24	-26	-25	-27	-22	-17	-13	-11	-5	-4	-5	-10	-14	-14	-20	-20	-17	-19	-18	-22
28	-24	-22	-19	-15	-14	-16	-25	-29	-29	-31	-28	-20	-9	-3	-1	-8	-17	-22	-18	-15	-16	-14	-32	-29
29	-30	-36	-27	-20	-16	-23	-24	-25	-26	-24	-22	-17	-11	-21	-13	-14	-23	-21	-27	-21	-16	-14	-13	-7
30	-8	-11	-6	-6	-15	-17	-19	-25	-27	-27	-22	-16	-11	-10	-15	-20	-21	-16	-17	-15	-14	-11	-9	-7



NOTE: The above values are based on data from three observatories: Hermanns, Kakioka, and San Juan. The data from Honolulu are not used because of instrumental difficulties. The Provisional Dst values for July and August 1979 were also derived from the same three observatories; see the footnote in the July tabulation of provisional Dst values.

PRINCIPAL MAGNETIC STORMS

SEPTEMBER 1979

OBS. 3 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
NEW	55.1N	4	03--	..	..	..	..	06(2)	5	24	88	84	07	06
COL	64.6N	17	23--	..	..	..	..	18(4)	8	204	2020	900	18	21
SIT	60.0N	17	23--	..	..	..	..	18(5)	7	--	--	680	18	18
NEW	55.1N	17	0622	SC	2	9	2	18(5)	7	66	547	368	19	05
WIT	54.2N	17	21--	..	..	..	..	18(1,3)	6	38	240	150	19	2u
FRD	49.6N	17	21--	..	..	..	..	18(3)	6	37	246	122	22	04
SJG	29.9N	17	2030	..	..	..	..	18(1)	6	10	178	33	19	08
JAI	17.3N	17	2300	..	..	..	..		-	11	241	71	19	03
SHL	14.6N	17	2300	..	..	..	..		-	9	312	62	19	03
ABG	09.5N	17	2300	..	..	..	..	18(3)	7	10	287	85	19	03
HYB	07.6N	17	0448	SC	- .4	14	- 1	18(1)	5	9	143	37	18	05
GUA	04.0N	17	2127	..	..	..	..	18(3)	7	10	270	50	19	04
ANN	01.5N	17	2300	..	..	..	..		-	12	381	130	19	03
HUA	00.6S	17	1100	..	..	..	..	18(6)	7	8	394	72	18	24
TRD	01.1S	17	2300	..	..	..	..		-	6	--	210	19	03
PMG	18.6S	17	21--	..	..	..	..	18(3)	8	9	280	100	20	00
GNA	43.2S	17	23--	..	..	..	..	18(4)	7	36	210	240	18	23
KGL	56.5S	17	21--	..	..	..	..	18(4,5,6)	8	--	--	--	18	21
HYB	07.6N	18	0549	SC	- 1.3	68	-10	18(3,4,5)	8	9	338	45	19	13
HER	33.7S	18	0547	SC*	- 7	26	--	18(3,4)	6	23	192	70	19	12
HYB	07.6N	19	1842	SC	- .1	9	- 1	20(5)	5	8	138	44	22	04
NEW	55.1N	20	08--	..	..	..	..	21(2)	6	35	119	206	22	04
JAI	17.3N	20	0800	..	..	..	..		-	10	102	32	22	03
SHL	14.6N	20	0800	..	..	..	..		-	7	104	40	22	03
ABG	09.5N	20	0800	..	..	..	..	20(5) 21(1,2)	5	9	118	64	22	03
ANN	01.5N	20	0800	..	..	..	..		-	8	157	97	22	03
TRD	01.1S	20	0800	..	..	..	..		-	5	220	105	22	03
HER	33.7S	20	1100	..	..	..	..	21(1)	5	25	90	79	21	16
FRD	49.6N	24	12--	..	..	..	..	27(2)	5	20	112	51	30	
HYB	07.6N	24	0900	..	..	..	..	25(6)	5	7	156	47	27	05
KGL	56.5S	25	13--	..	..	..	..	25(6)	5	--	--	--	26	16
HUA	00.6S	26	1200	..	..	..	..	26(5,6)	5	7	293	48	26	23

Reports were received from the following observatories:

ALIBAG ANNAMALAINAGAR COLLEGE FREDERICKSBURG GNANGARA GUAM HERMANUS HONOLULU HUANCAYO
HYDERABAD JAIPUR KERGUELEN NEWPORT PORT MORESBY SAN JUAN SHILLONG SITKA TRIVANDRUM WITTEVEEN

because of instrumental difficulties. The Provisional Dst values for July and August 1979 were also derived from the same three observatories; see the footnote in the July tabulation of provisional Dst values.

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

SEPTEMBER 1979

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS

The meaning of the station symbols is given in the IAGA-Bulletin no. 32h, page 106-116.
Times of ssc are mean values.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

18 0546: A: FUR MMB KAK HAZ MPO

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

05	0407 - 0423	HAZ		19	1423 - 1434	HUA	
09	0241 - 0305	KAK	HAZ	19	1844 - 1852	HUA	(bp: B: MPO)
10	0514 - 0538	HAZ	KNY	19	2301 - 2330	HAZ	
11	1453 - 1512	HUA		21	2350 - 2425	HAZ	
11	1539 - 1614	HUA	(b: A: MPO)	22	0105 - 0134	HAZ	
13	1310 - 1339	WNG	EBR HUA	22	0218 - 0232	HAZ	
14	0325 - 0334	HAZ		22	0234 - 0245	MMB	KAK HAZ
14	1501 - 1514	HUA		23	0202 - 0235	KAK	HAZ KNY
15	1018 - 1045	WNG	NGK AQU (si: A: FUR-bp: B: MPO)	23	1531 - 1543	HUA	
16	0105 - 0154	KAK	HAZ KNY	24	0507 - 0523	HAZ	KNY (si: C: MPO)
16	0939 - 0958	WNG	NGK AQU EBR	24	0918 - 1003	NGK	
16	1212 - 1231	HUA		24	1621 - 1633	HUA	
19	0359 - 0439	HAZ		26	0918 - 0946	NGK	

Very unusual events

n o n e

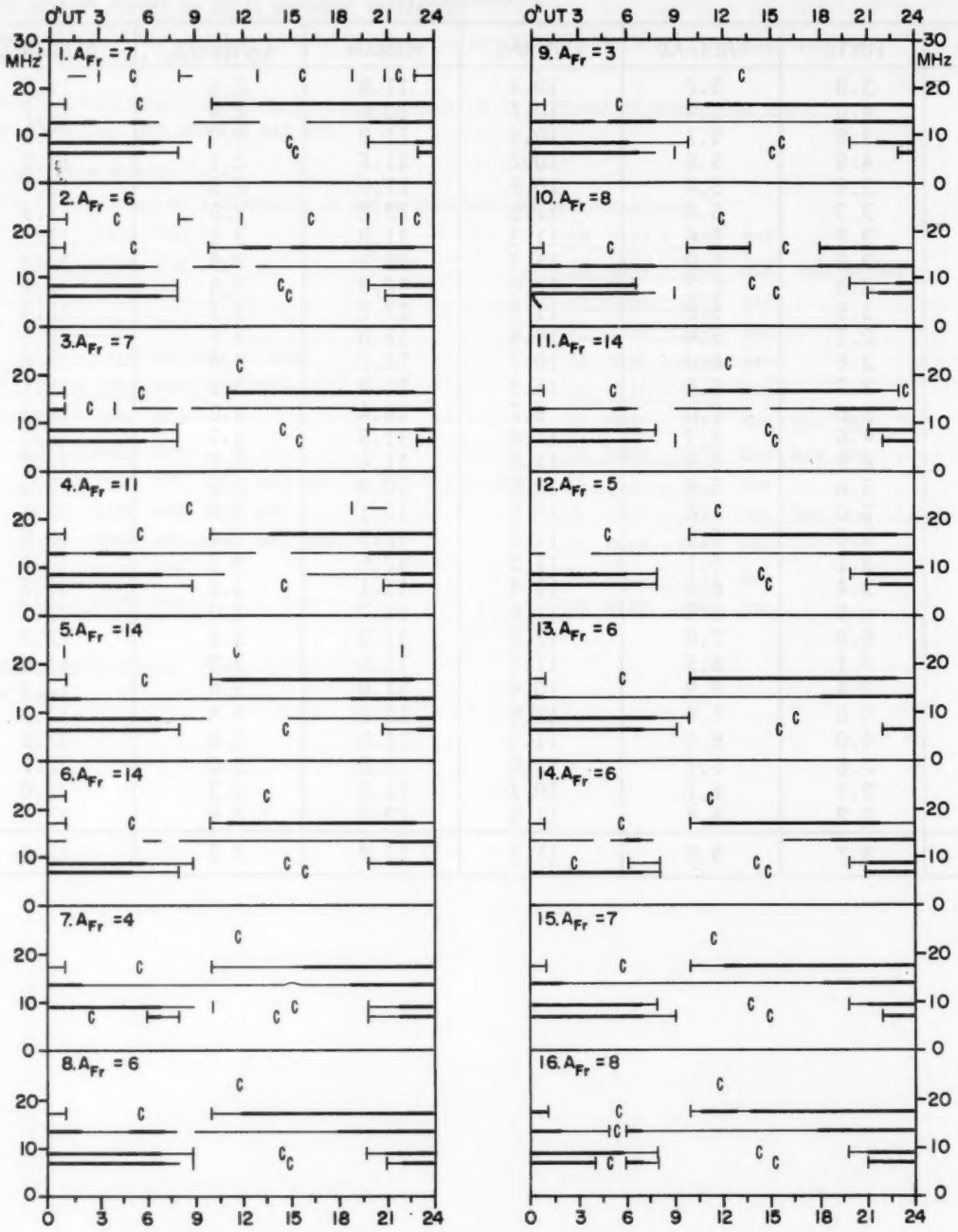
RADIO PROPAGATION QUALITY INDICES

SEPTEMBER 1979

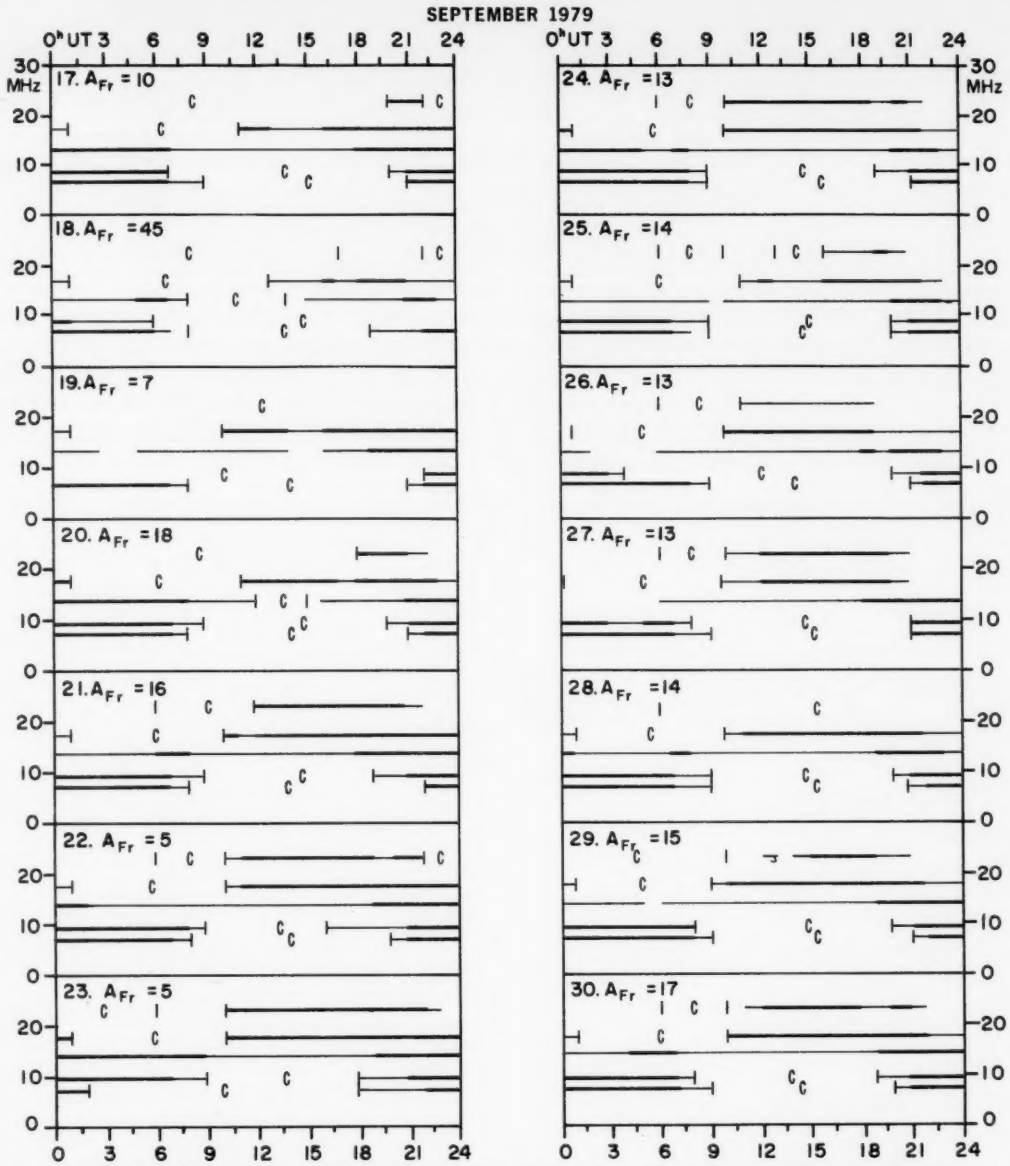
DAY	TOKYO	HALIFAX	TEHERAN	MOSCOW	CANBERRA	BRACKNELL
1	3.8	5.2	10.3	11.8	2.5	11.8
2	4.0	5.4	10.7	10.6	2.4	11.7
3	3.8	5.7	10.9	11.9	2.9	11.2
4	4.5	5.5	10.2	11.6	2.7	12.8
5	3.7	5.4	10.8	11.6	2.8	12.4
6	3.3	5.6	11.1	12.2	2.8	11.9
7	3.8	5.6	11.3	11.8	3.2	12.5
8	3.8	6.0	11.3	12.1	3.4	12.8
9	3.5	6.2	11.0	12.3	3.5	12.3
10	3.5	5.8	11.4	12.2	3.7	12.4
11	2.7	5.4	10.9	12.0	3.6	12.3
12	3.5	6.0	10.7	12.2	3.4	12.6
13	3.7	6.5	11.3	11.9	3.3	12.1
14	3.6	6.0	9.7	10.4	3.0	12.3
15	4.6	6.3	11.8	11.5	3.7	12.7
16	4.7	5.9	11.8	11.4	3.7	12.2
17	3.8	5.4	10.5	10.9	3.5	12.9
18	3.0	4.6	10.8	10.1	2.9	12.5
19	5.0	6.1	11.8	12.3	3.4	12.6
20	3.1	5.1	11.3	12.5	3.1	12.9
21	3.4	6.4	11.4	11.1	3.4	11.6
22	4.5	6.5	11.8	11.7	3.7	12.5
23	5.0	7.0	12.2	11.5	3.6	12.7
24	3.1	6.5	11.1	11.5	3.3	11.6
25	3.4	5.9	10.9	11.9	3.4	12.2
26	3.0	5.4	12.0	12.2	3.4	11.9
27	4.0	6.5	11.9	11.8	2.9	12.6
28	2.6	6.1	11.8	12.5	3.0	12.2
29	2.9	6.1	10.7	11.6	2.3	11.0
30	3.2	6.4	11.9	12.0	2.6	12.4
MEAN	3.7	5.9	11.2	11.7	3.2	12.3

TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

SEPTEMBER 1979



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH



Field strengths from five frequencies, 6.4, 8.5, 12.8, 17.1 and 22.4 MHz, observed on a Lüchow - Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

Adapted from Observations by Deutsche Bundespost

☆ GPO1979—677-108/7

Astronomy QB1.U57
N0423, pt2

NOVEMBER 1979 NUMBER 423 -- Part II

P-A

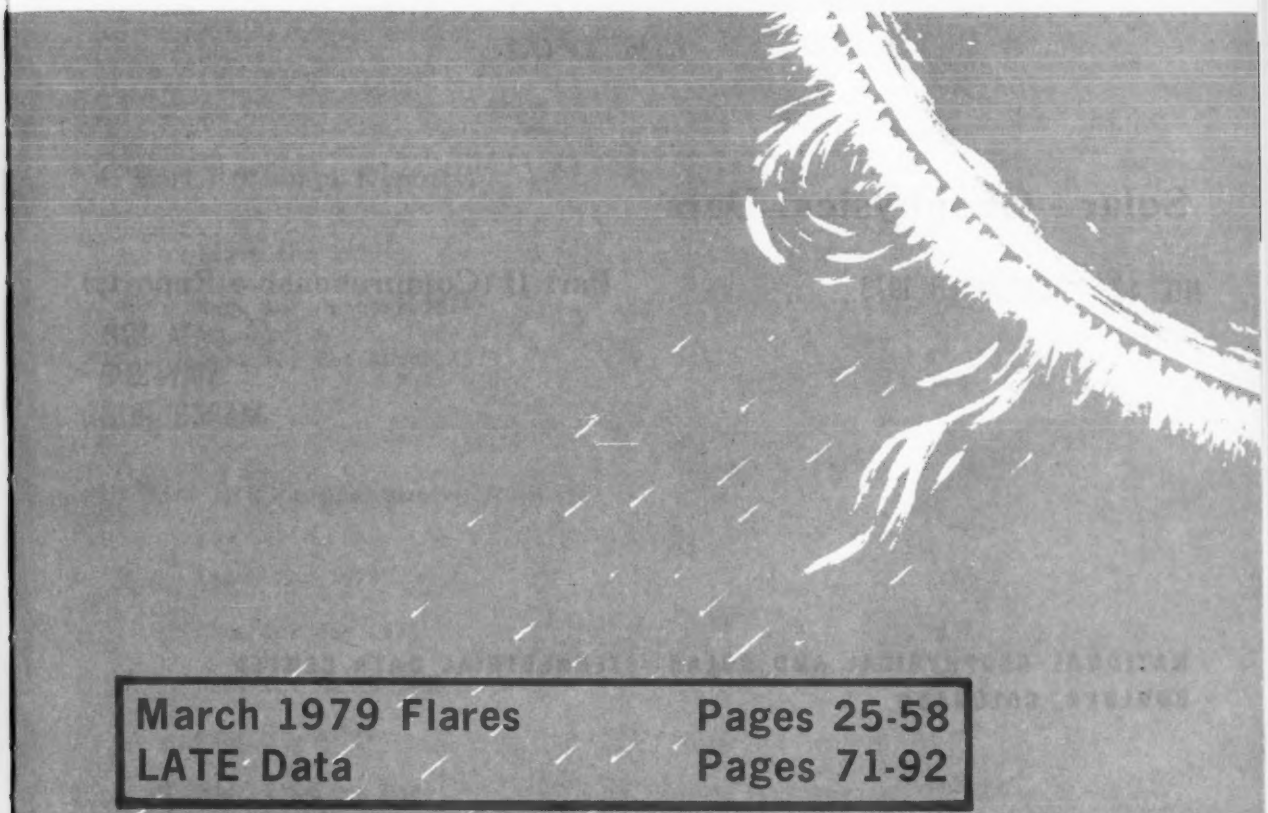
JAN 2 - 1980

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

Solar-Geophysical Data comprehensive reports

Data for May 1979 -- March 1979 & Miscellanea

Explanation of Data Reports Issued as Number 414 (Supplement) February 1979



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noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA AND INFORMATION SERVICE / BOULDER, COLORADO

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Solar - Geophysical Data

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Part II (Comprehensive Reports)

DATA FOR
MAY 1979
MARCH 1979

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
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SOLAR-GEOPHYSICAL DATA

No. 423

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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——— = no data available.
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SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

MAY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
1	200	GORK	43 NS	0252 E		27 D		5		
	2950	GORK	1 S	0354.4	0356	3.3	8.1	4		
	650	GORK	45 C	0354.6	0356.6	8.4	6			
	650	GORK		0354.6	0402		11.5			
	500	HIRA	46 C	0354.8	0355.6	2	80	35		WR
	700	SYDN	4 S	0355.3	0356.7	2.3				
	1415	SYDN	4 S	0355.8	0356.4	1.8				
	950	GORK	1 S	0355.8	0356.3	1.8	6.4	3.2		
	200	GORK	8 S	0356	0356.3	.7	650			
	700	SYDN	4 S	0400.9	0401.7	2.6				
	500	HIRA	2 S/F	0401.3	0401.6	1.3	18	8		SL
	9100	GORK	20 GRF	0455.9	0501.2	14	11	5		
	260	ONDR	44 NS	0550 E		499 D	101	12		
	204	IZMI	44 NS	0620		360	80			
	230	GORK	43 NS	0617.3		213.7		30		
	221	ABST	44 NS	0623	0847.5	225	14			
	536	ONDR	43 NS	0625		395	35	8		
	100	GORK	43 NS	0645		180		50		
	127	TORN	44 NS	0650 E	1038.3	480 D	510	43		V2
	245	SGMR	44 NS	0942 E	1735.3	558 D	98			3,5
	410	SGMR	44 NS	0942 E	1445.5	558 D	91			3,5
	2950	GORK	1 S	0552.4	0553.2	2.6	19	9		
	9100	GORK	1 S	0553	0553.8	2.6	11	5		
	200	HIRA	24 R	0617	0720	195 D	140	80		HR
	500	HIRA	24 R	0622.6	0635.1	175 D	40	15		SR
	650	GORK	22 GRF	0627	0635.3	203	16	6		
	204	IZMI	25 R	0631.8		64.2	180			
	100	HIRA	24 R	0644	0730	170 D	300	200		SR
	1470	BERL	8 S	0810.2	0810.5	.5	7.8			
	204	IZMI	4 SF	0847.7	0848	1	1300	600		
	234	POTS	42 SER	0847.8	0851.3	3.8	420	20		
	2650	DWIN	45 C	0908	0913	9	160 D			
	2650	DWIN	45 C	0940	0944	6	120	30		
	2800	OTTA	240 R	1125	1145	20	4.8	2.4		
	2800	OTTA	1 S	1536	1507	2	2	1		
	2800	OTTA	1 S	1737.5	1738.8	3	2.6	1.3		
	2800	OTTA	21 GRF	1915	1935	215	11	3.6		
	4995	BOUL	3 S	2001.5	2003.5	4	10	3		
	9400	HUAN	S	2020.2	2044.1	36	17.8	12.5		R
	4995	BOUL	45 C	2023.5	2025	15	38	13		
	2695	BOUL	4 SF	2024.5E	2026.5	5.5D	27	9		
	9400	HUAN	S	2024.5	2025.2	2.3	22.6	13.4		R
	2800	OTTA	4 S/F	2024	2026.4	12	24	10		
	4995	BOUL	8 S	2359.5	0000.5	2	18	6		
2	500	HIRA	27 RF	0349	0403	50	15	8		SR
	260	ONDR	44 NS	0545 E		507 D	64	5		
	221	ABST	43 NS	0849	0931.2	60	19			
	245	SGMR	44 NS	0942 E	1513.9	558 D	71.6			5,3G
	410	SGMR	44 NS	0942 E	1112.2	558 D	49.4			5,3G
	930	BORD	46 C	0728.4	0728.5	.6	24	2		
	930	BORD	46 C	0907.4	0907.7	.3	18	2		
	204	IZMI	4 SF	0933.7	0934.2	1.3	250	170		
	930	BORD	41 F	0934.3	0934.8	.5	18	2		
	536	ONDR	23 GRF	1010		100	27	14		
	7000	SAOP	40 F	1100						
	113	POTS	4 S/F	1146.4	1146.5	.1	150	20		
	2800	OTTA	20 GRF	1210	1230	85	7	5.4		
	234	POTS	8 S	1221.1	1222.2	.3	160	50		
	113	POTS	8 S	1229.1	1229.2	.1	100	25		
	33	UPIC	42 SER	1229	1329.2	61				
	29	UPIC	42 SER	1229	1249	60.8				
	536	ONDR	3 S	1308.2	1308.2	.2	32			
	113	POTS	42 SER	1318.6	1329.2	11	850	10		
	536	ONDR	3 S	1323.8	1323.8	.2	24			
	2800	OTTA	21 GRF	1430	1610	290	7.8			
	113	POTS	4 S/F	1451.7	1451.8	1.3	2000	700		
	2800	OTTA	1 S	1525	1525.5	2	3.8	1.9		
	8800	ATHN	GB	1646.8	1707.3	26.6	1282.6	384.8		
	2695	ATHN	C	1648.6	1707.3	24.8	443.9	133.2		
	4995	ATHN	GB	1648.7	1706.5	24.7	729.8	218.9		
	4995	BOUL	45 C	1649.5	1651.5	29	225	75		
	1415	ATHN	C	1649.5	1708.5	23.9	492.2	147.7		
	245	SGMR	6 S	1650 U	1703	34.5U	84	25		SWF
	410	SGMR	6 S	1650 U	1703	33.5U	97	29		2,5,CONT
	7000	SAOP	46 C	1650	1659.8	26.2	449			4R
	4995	SGMR	3 S	1650.3	1700	32.5	327	98		2,5,CONT
	8800	SGMR	3 S	1650.5	1700	32.4	369	111		SWF
	9400	HUAN	C	1650.5	1656.4	14.1	297	162.1		R
	9400	HUAN		1650.5	1659.9		386.7			R
	9400	HUAN		1650.5	1658.3		295			R
	10400	BERN	46 C	1650.6	1653.2	30	80	243		
	8400	BERN	46 C	1650.6	1659.7	30	126	334		
	8400	BERN	46	1650.6	1659.7	30	334			7R

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	10400	BERN	46	1650.6	1653.2	30	243			
	606	SGMR	3 S	1650.7	1700.4	32.8	360	108		SWF
	1415	SGMR	3 S	1650.7	1659.8	33	62	19		2,5,CONT
	15400	SGMR	3 S	1650.8	1657.8	33.8	241	72		2,5,CONT
	2800	OTTA	46F C	1650.8	1700	21.2	188	58		
	930	BORD	45 C	1650	1700.8	33	140	16		
	2695	SGHR	3 S	1651.2	1700.3	32	195	59		SWF
	2695	BOUL	45 C	1651.5E	1701	20 D	165	55		
	1420	BOUL	45 C	1651 E	1659	20 D	102	34		
	29	UPIC	45 C	1655.7	1656.9	1.8				
	33	UPIC	4 S/F	1656	1656.7	1.7				
	9400	HUAN	PBI	1704.6	1704.6	49.5	55.5	24.3		R
	33	UPIC	48 C	1706	1707.2	12.8				
	29	UPIC	48 C	1706	1707.2	13.2				
	9400	HUAN	S	1707	1707.9	1.5	16.3	10		R
	9400	HUAN	S	1709.1	1709.4	.9	6.5	4.2		D
	2800	OTTA	30 PBI	1712	1712	78	9	4.5		
	4995	BOUL	4 SF	1713	1715.5	5	78	26		
	2800	OTTA	4 S/F	1713	1716.2	8	120	33		
	9400	HUAN	C	1714.3	1715.6	4.4	88.1	43.4		R
	9400	HUAN		1714.3	1716		86.5			R
	1420	BOUL	4 SF	1714.5E	1716	5.5D	54	18		
	2695	BOUL	4 SF	1715 E	1717	5.5D	117	39		
	9400	HUAN	S	1721.4	1722.4	1.4	13	4.9		D
	2800	OTTA	1 S	1722	1722.3	1.2	3.6	1.8		
	2800	OTTA	40 F	1737	1738	4	4.6			
	4995	BOUL	8 S	1924	1925.5	2	27	9		
	7000	SADP	3 S	1925	1925.8	1.2	67			34L
	9400	HUAN		1925.5	1925.8	.6	22.8	16.3		L
	2800	OTTA	3 S	1925	1925.9	8	52	6.8		
	2695	BOUL	3 S	1926 E	1926.5	1 D	25	8		
	2800	OTTA	1 S	2114	2114.5	2	8.6	3		
	2695	PENT	21 GRF	2250	2254	30	3.4	1.7		
	2695	PENT	8 S	2253.6	2253.6	.1	6.2			
3	200	HIRA	43 NS	0025	0145	155	70	20		HR
	200	GORK	44 NS	0256 E		604		5		
	221	ABST	44 NS	0500	0920	360	35			
	260	ONDR	44 NS	0546 E		496 D	111	7		
	127	TORN	43 NS	0900 U	0939.1	180 J	12	.7		V1
	204	IZMI	43 NS	0908.4		171.6	100			
	245	SGMR	44 NS	0941 E	1548.9	559 D	99			3G
	410	SGMR	44 NS	0941 E	1525.7	559 D	19			3G
	2695	PENT	21 GRF	0100	0140	50 D	20.6			
	2930	VORO	45 C	0119	0128	16	42			
	5730	IRKU		0122	0130.6		55			L
	5730	IRKU	45 C	0122	0127.7	10	59	18		L
	700	SYDN	47 GB	0124.6	0128.1	14.8				
	2695	MANI	S	0124.7	0128.7	6.8	3 31	10.3		III
	1415	SYDN	47 GB	0124.8	0128.1	8				
	2695	PENT	3 S	0124	0126.8	13	47	18.4		
	1415	MANI	S/F	0125	0128.4	14	4 169.9	56.6		
	500	HIRA	29 PBI	0125.3	0137.3	52	30	10		WR
	500	HIRA	46 C	0125.3	0128.1	5	120	80		ML
	606	MANI	S/F	0125.4	0128.2	13.6	4 114	38		
	200	HIRA	46 C	0125	0127	6	1000	300		D
	17000	NOBE	20 GRF	0126.5	0139.3	53	11			D
	100	HIRA	46 C	0126.8	0129.5	5	1000	500		ML
	5730	IRKU	29 PBI	0132		40	23			L
	536	ONDR	42 SER	0620	0634.3	20	8			
	808	ONDR	42 SER	0620	0634.7	18	28			
	9100	GORK	21 GRF	0622	0625.5	28.7	7	3		
	9100	GORK		0623.7	0624.5	1.5	12	6		
	228	HARS	45 C	1402.8	1403.1	1	465	105		
	930	BORD	41 F	1646.4	1646.9	.6	27	2		
	9400	HUAN	S	1917	1918.5	2.3	13.4	5.9		D
	2800	OTTA	20 GRF	2000	2010	50	3.4	1.8		
	200	HIRA	43 NS	2232	2334	300	80	15		ML
4	260	ONDR	44 NS	0540 E		515 D	24			
	127	TORN	43 NS	0900 U	1142.6	350 D	71	2.5		V1
	245	SGMR	44 NS	0941 E	1601.8	559 D	271			3G
	410	SGMR	44 NS	0941 E	1536	559 D	45			3G
	35000	NAGO	22 GRF	0541	0548	14	4.3			
	3100	CRIM	20 GRF	0624	0703	42	6	3		
	650	GORK	40 F	0635.3	0638.4	5.7	3			
	650	GORK		0635.3	0639.3		4.5			
	113	POTS	41 F	0823.2	0824.2	1.1	180	15		
	33	UPIC	8 S	0824.1	0824.1	.8				
	29	UPIC	8 S	0824.1	0824.2	.3				
	650	GORK	3 S	1029.2	1029.4	1.7	7	2		
	113	POTS	41 F	1142.1	1142.2	.4	100	10		
	2800	OTTA	20 GRF	1850	1925	50	2.8	1.4		
	2800	OTTA	1 S	1948.5	1949.5	3	1.8	.9		
	2800	OTTA	20 GRF	2010	2025	40	1.8	.9		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	4995	BOUL	4 SF	2132.5	2133	3	35	12		
	1420	BOUL	3 S	2133.5E	2134.5	4 D	38	13		
	500	HIRA	46 C	2133.5	2134.1	1.5	1800	350		WR
	2800	OTTA	4 S/F	2133.7	2134.5	4.3	85	32		
	2695	BOUL	45 C	2134 E	2135	3 D	141	47		
	2800	OTTA	29 PBI	2138	2138	8	3.6	1.2		
	200	HIRA	44 NS	1950 E	2255	820 D	90	15		MLMR
	2695	PENT	20 GRF	2240	2330	120	3.4	1.7		
5	5730	IRKU	2 S	0214.2	0215.3	4	14	4		L
	606	MANI	S/F	0214.4	0214.7	1.4	4 383.6	41.1		SPIKES
	17000	NOBE	1 S	0214.7	0215	1.3	18			G
	2695	MANI	S	0214.7	0214.3	2.3	3 11.9	7.9		
	200	GORK	44 NS	0326 E		418		10		
	260	ONDR	44 NS	0547 E		507 D	51	4		
	245	SGMR	44 NS	0938 E	1345.9	562 D	142			
	410	SGMR	44 NS	0938 E	1739.9	562 D	45.2			
	3100	CRIM	24 R	0908	1011		8			
	536	ONDR	42 SER	1231	1231.4	45	75			
	4995	BOUL	4 SF	2029.5	2031	2.5	12	4		
	2800	OTTA	4 S/F	2030.2	2030.5	1.5	10.8	3		
	2695	PENT	20 GRF	2240	2257	50	3.4	1.7		
6	260	ONDR	44 NS	0543 E		509 D	67	3		
	245	SGMR	44 NS	0937 E	1448.9	563 D	28			S
	650	GORK	20 GRF	0728	0924	152	2			
	536	ONDR	23 GRF	0740	0804.8	150	11	4		
	808	ONDR	8 S	1224.2	1224.2	.2	68			
	808	ONDR	3 S	1245.3	1245.3	.2	22			
	2800	OTTA	21 GRF	1540	1644	190	4.6	2.4		
	2800	OTTA	2 S/F	1543	1544	3	2.8	1.4		
	8400	BERN	1	1554	1555.2	4	9			9L
	10400	BERN	1	1554	1555.2	4	6			
	10400	BERN	1 S	1554	1555.2	4	2	6		
	9400	BERN	1 S	1554	1555.2	4	4	9		
	2800	OTTA	1 S	1615	1615.5	6	4	1.6		
	2800	OTTA	240 R	1925	1943	18	4.4	2.2		
	2800	OTTA	27 RF	1945		135	2.8	2.2		
	2800	OTTA	24 R	1945	1952	7	2.8	1.4		
	2800	OTTA	24P R	1952		73	2.8			
	2800	OTTA	26 FAL	2105	2100	55	-2.8	-1.4		
	2800	OTTA	1 S	2217	2208	2	6.2	2.9		
	2695	PENT	20 GRF	2230	2300	50	2	1		
	2695	PENT	4 S/F	2334.5	2336.1	7.5	100	30		
	2695	MANI	S	2335	2335.8	6	3 76.5	25.5		
	606	MANI	S/F	2335.1	2335.2	6.7	4 32.2	10.7		
	1415	MANI	S/F	2335.1	2336.3	6.9	4 26.8	8.9		
	8800	MANI	S	2335.2	2336.3	3	3 24.5	8.2		
	17000	NOBE	21 GRF	2335.3	2337.4	12	17			G
	17000	NOBE	8 S	2335.5	2336.2	1.5	30			R
	2695	BOUL	45 C	2335.5E	2336.5	6 D	117	39		
	4995	BOUL	3 S	2335.5	2334.5	2	89	30		
	1420	BOUL	45 C	2335 E	2336	7 D	20	7		
	35000	NAGO	20 GRF	2335	2340	10	13			
	2695	PENT	29 PBI	2342	2342	65	2.8	1.6		
7	200	HIRA	43 NS	0130	0520	270	40	10		G
	200	GORK	44 NS	0257 E		183 D		10		
	260	ONDR	44 NS	0546 E		504 D	30	2		
	700	SYDN	8 S	0427.8	0408	.3				
	29	UPIC	42 SER	0702.4	0745.1	191.7				
	33	UPIC	42 SER	0702.7	0953.5	191.4				
	2695	PENT	1 S	1458	1458.5	2	3.6	1.8		
	2800	OTTA	20 GRF	1830	1838	130	3.4	2		
	2800	OTTA	20 GRF	2130	2207	125	3.8	1.9		
	700	SYDN	42 SER	2236.7	2252.2	17.1				
	2930	VORO	45 C	2333	2336	12	97			
8	700	SYDN	8 S	0012.9	0013.2	.6				
	2930	VORO	3 S	0045	0048	10	29			
	5730	IRKU	1 S	0046.6	0048.1	6	13	3		R
	2695	BOUL	3 S	0046 E	0047	2.50	16	5		
	2695	PENT	45 C	0046	0048.3	7	28	7		
	4995	BOUL	4 SF	0046	0047	3	20	7		
	700	SYDN	4 S	0047.9	0048.3	1.6				
	1415	SYDN	2 S	0048	0049.2	1.8				
	5730	IRKU	29 PBI	0052		20	4			R
	2695	PENT	29 PBI	0053	0053	27	3.6	1.8		
	700	SYDN	40 F	0152.7	0153.1	.8				
	2800	OTTA	22 GRF	1255	1440	365	7.6	4.5		
	9400	HUAN	S	1358.2	1425.5	48.6	8.3	4.4		R
	113	POTS	41 F	1448.9	1449	1.6	100	2		
	2800	OTTA	240AR	2025	2030	5	3.2	1.6		
	9400	HUAN	S	2026.5	2027.5	2.2	15	7.5		R
	2800	OTTA	8 S	2027.2	2027.9	.8	8.6			

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
9	10400	BERN	20		0720.1	0839.7	180	17			OPR
	8400	BERN	20		0720.1	0839.7	180	21			OPR
	10400	BERN	20	GRF	0720.1	0839.7	180	6	17		OPR
	8400	BERN	20	GRF	0720.1	0839.7	180	8	21		OPR
	9500	BERL	20	GRF	0827		63				
	1470	BERL	20	GRF	0827		49				
	3000	BERL	20	GRF	0827		58				
	930	BORD	46	C	1008.2	1008.7	.6	36	3		
	260	ONDR	42	SER	1027	1118.2	83	15			
	29	UPIC	42	SER	1028.8	1302.4	153.8				
	33	UPIC	42	SER	1028.9	1302.2	153.6				
	113	POTS	41	F	1108.7	1109	.3	280	15		
	2800	OTTA	20	GRF	1120	1128	20	5.8	1.9		
	2800	OTTA	23	GRF	1200	1423	250	19	9.5		
	9500	BERL	20	GRF	1201	1221.7	46	15			
	1470	BERL	23	GRF	1204	1225.7	45	10			
	3000	BERL	20	GRF	1205	1222	43	9			
	9400	HUAN		S	1214.7	1224.8	28.7	6.7	3.1		R
	2800	OTTA	20	GRF	1215	1220	30	4.2	2.1		
	10400	BERN	20		1216	1222.5	32	14			
	8400	BERN	20		1216	1222.5	32	21			4R
	10400	BERN	20	GRF	1216	1222.6	32	5	14		
	8400	BERN	20	GRF	1216	1222.6	32	7	21		
	930	BORD	41	F	1221	1221.8	4	21	2		
	9500	BERL	20	GRF	1345	1425	60	13			
	3000	BERL	20	GRF	1347	1424	63	10			
	1470	BERL	20	GRF	1348	1428	62	5.5			
	9400	HUAN		S	1349.3	1415.5	57	8.4	5.6		3
	930	BORD	46	C	1441	1441	.5	24	2		
	2800	OTTA	26	FAL	1735	1810	35	-3.4	-1.7		
	2800	OTTA	22	GRF	2010	2030	100	5.4	1.8		
	9400	HUAN			2025.5	2030		11.8			R
	9400	HUAN		S	2025.5	2027.4	7.2	13.5	7.1		R
10	200	HIRA	7	C	0333.8	0334	1.2	400	100		0
	2950	GORK	1	S	0334.3	0336	3.2	5.5	2.7		
	5730	IRKU			0334.7	0335.7		7			0
	5730	IRKU	45	C	0334.7	0335.2	4	8	2		0
	228	HARS	45	C	0334.8	0335.2	1.5	350	65		SUNRISE
	130	HIRA	7	C	0335	0335.2	1	390	200		ML
	650	GORK	4	SF	0335	0335.3	1.5	13	4		
	950	GORK	2	SF	0335	0335.3	2	6			
	228	HARS	45	C	0439.2	0439.6	1.9	400	95		
	808	ONDR	3	S	0625.1	0625.1	.2	32			
	1470	BERL	4	S/F	0810	0811	5	9			
	930	BORD	46	C	0810	0811.1	5	28	5		
	410	SGMR	43	NS	1037	1221.3	503 D	17			3,5,SWF
	245	SGMR	43	NS	1037	1200.1	503 D	17			3,5,SWF
	9400	HUAN		S	1302.6	1316.4	46.5	6.3	2.4		"
	930	BORD	45	C	1539	1539.5	2	25	4		
	2800	OTTA	1	S	1650	1654	10	2.2	1.1		
	2800	OTTA	21	GRF	2000	2023	60	3.2	1.6		
	2695	PENT	1	S	2009	2009.5	1	3.6	1.8		
	2800	OTTA	22	GRF	2110	2130	33	4.6	1.6		
	2695	PENT	240	R	2230	2305	35	5	2.5		
11	2695	PENT	21	GRF	0000	0120	110 D	18.4			
	1415	SYDN	45	C	0001	0002	1.6				
	2695	PENT	2	S/F	0001	0003.3	8	8.8	3		
	1420	BOUL	45	C	0001 E	0002	1.50	74	25		
	2695	PENT	20	GRF	0036	0041	12	11	5.5		
	2695	PENT	1	S	0053	0056	9	8	4		
	9100	GORK	20	GRF	0648.6	0756.4	37	11	5		
	113	POTS	4	S/F	0651.8	0651.9	.2	175	40		
	3100	CRIM	21	GRF	0745	0805	20	5	2		
	10400	BERN	22		0750.3	0756.2	8.5	5			OPR
	10400	BERN	22	GRF	0750.3	0756.2	8.5	2	5		OPR
	3100	CRIM	1	S	0750.5	0751	1	.5	1		
	536	ONDR	3	S	0751	0751	.2	17			
	3100	CRIM	1	S	0755	0756	2	3	1		
	260	ONDR	43	NS	0840	1220.7	333 D	13			
	536	ONDR	8	S	1220.7	1220.7	.2	34			
	2800	OTTA	20	GRF	1240	1255	40	3.6	1.8		
	2800	OTTA	20	GRF	1400	1424	95	4.4	2.2		
	2800	OTTA	20	GRF	1614	1655	45	3.4	1.7		
	2800	OTTA	40	F	1742	1742.5	1	12.4			
	2800	OTTA	240	R	2017	2110	53	6	3		
	2800	OTTA	20	GRF	2120	2122	17	3.4	1.7		
12	4995	BOUL	4	SF	0032	0033	2.5	20	7		
	5730	IRKU	2	S	0033.2	0034.1	3	17	4		R
	2695	PENT	3	S	0033	0034	5	21.8	5.4		
	2695	PENT	1	S	0045	0045.7	1	2.2	1.1		
	5730	IRKU	1	S	0109.5	0110.7	2	4	2		R

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK		MEAN	INT	POLARIZATION OR REMARKS
	2695	PENT	1	S	0110	0110.7	1.5		3.6	1.8		
	5730	IRKU			0208.5	0210.5			4			R
	5730	IRKU	45	C	0208.5	0209	3		4			R
	5730	IRKU	1	S	0305.5	0305.7	1		4			R
	260	ONDR	44	NS	0552 E		490 D		94			
	410	SGMR	44	NS	0928 E	1559	572 D		45			S
	245	SGMR	44	NS	0928 E	1555.1	572 D		48			S
	536	ONDR	41	F	0751.5	0752.5	1		13			
	10400	BERN	3		0935.1	0936.3	5		15			
	8400	BERN	3		0935.1	0936.3	5		20			O
	8400	BERN	3	S	0935.1	0936.3	5		7	20		
	10400	BERN	3	S	0935.1	0936.3	5		5	15		
	9100	GORK	2	SF	0935.8	0936.4	4.9		12			
	113	POTS	4	S/F	0942.8	0942.9	.2		160	30		
	204	IZMI	4	SF	0942.9	0943.1	1.1		200	100		
	2800	OTTA	240	R	1240	1330	50		3.6	1.8		
	29	UPIC	4	S/F	1255.2	1255.9	1.2					
	113	POTS	41	F	1354.4	1355.2	1		500	15		
	2800	OTTA	1	S	1619	1619.5	3		2.6	1.3		
	2800	OTTA	240	R	2123	2147	24		2.4	1.2		
13	5730	IRKU	1	S	0225.3	0226.5	5		4	2		L
	260	ONDR	44	NS	0649 E		453 D		50	3		
	410	SGMR	44	NS	0928 E	1122.1	572 D		56			
	245	SGMR	44	NS	0928 E	1116	572 D		144			
	408	TRST	44	NS	0953		150		55			
	536	ONDR	3	S	0744.5	0744.5	.2		12			
	536	ONDR	2	S/F	0816.2	0816.2	.5		8			
	536	ONDR	23	GRF	0950		110		20	9		
	2800	OTTA	240	R	1625	1645	20		2.4	1.2		
	9400	HUAN		S	1805.4	1814.5	13.6		9.8	5.4		R
14	500	HIRA	46	C	0004.3	0006.2	4		140	30		HR
	1415	SYDN	45	C	0004.9	0006.7	3.6					
	700	SYDN	45	C	0004.9	0006.6	3.9					
	100	HIRA	46	C	0005	0006.8	3		1500	200		O
	200	HIRA	46	C	0005.5	0006.5	2		700	100		HR
	2695	MANI		S	0005.5	0006.5	1.9	3	6	2		
	606	MANI		S/F	0005.5	0006.4	2.3	4	70.6	23.5		
	2930	VORO	3	S	0005	0007	5		24			
	1415	MANI		S/F	0006	0006.5	2.4	4	56.1	18.7		
	260	ONDR	44	NS	0543 E		510 D		37			
	410	SGMR	44	NS	0928 E	1138	572 D		67.8			3,5
	245	SGMR	44	NS	0928 E	1137.2	572 D		67.1			3,5
	408	TRST	44	NS	0933		190		50			
	113	POTS	8	S	0726.1	0726.3	.4		700	200		
	930	BORD	8	S	0805.7	0805.8	.3		17	2		
	113	POTS	8	S	0916.4	0916.4	.1		200	70		
	5730	IRKU			0930.5	0938.3			8			L
	5730	IRKU	45	C	0930.5	0935.7	25		18	7		L
	5730	IRKU			0930.5	0943.9			10			L
	9500	BERL	20	GRF	0930	0943.5	30		14 U			
	3100	CRIM	7	C	0933	0935	13		18 D	6		
	3100	CRIM			0933	0942.5			14			
	3100	CRIM			0933	0938			16			
	3100	CRIM	29	PBI	0933	0946	62		5	2		
	2950	GORK	45	C	0933.8	0935.8	9.7		48	24		
	2950	GORK	29	PBI	0933.8	0943.5	53.5		12			
	2950	GORK			0933.8	0942.8			18			
	2950	GORK			0933.8	0933.3			26	13		
	3000	BERL	4	S/F	0934	0935.9	3.5		39			
	4995	ATHN		GRF	0934.4	0935.8	15.1		33.4	20		
	2695	ATHN		GRF	0934.5	0935.8	14.9		35.6	21.4		
	8800	ATHN		GRF	0934.8	0935.8	1.6		4.9	2.9		
	2650	OWIN	45	C	0934	0936	11		40	10		
	1470	BERL	4	S/F	0935	0936	3		15			
	1415	ATHN		GRF	0935	0935.8	4.9		8.4	5		
	9100	GORK	20	GRF	0935.2	0943.4	52		13	6		
	950	GORK	2	SF	0935.4	0936.9	2.5		4			
	650	GORK	1	S	0935.5	0935.7	2.3		1.5			
	536	ONDR	2	S/F	0935	0935.7	2		24	2		
	5730	IRKU	29	PBI	0955		24		6			L
	3100	CRIM	1	S	1011	1014	5		6	2		
	2950	GORK	1	S	1012.5	1014.1	2.6		15	7		
	1470	BERL	1	S	1012.5	1014.2	3.5		3.5			
	3000	BERL	3	S	1012	1014	4		7.8			
	228	HARS	45	C	1137	1137	1		200	30		
	113	POTS	41	F	1207.4	1207.5	.1		150	30		
	33	UPIC	4	S/F	1207.4	1207.5	.5					
	29	UPIC	8	S	1207.5	1207.6	.3					
	29	UPIC	8	S	1419.8	1420	.6					
	113	POTS	4	S/F	1419.8	1419.9	.3		250	50		
	33	UPIC	8	S	1420	1420.1	.4					
	2695	PENT	240	R	2245	2300	15		3.2	1.6		
15	260	ONDR	44	NS	0544 E		511 D		54	3		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22}Wm^{-2}\ Hz^{-1}$ PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	221	ABST	44	NS	0600	0843.8	120	27			
	536	ONDR	43	NS	0710		425 D	29	3		
	408	TRST	44	NS	0923		180	47			
	410	SGMR	44	NS	0927 E	1259.8	573 D	38.1			3G
	245	SGMR	44	NS	0927 E	1539.6	573 D	72.3			3G
	930	BORD	8	S	1005	1005	.2	16	2		
	930	BORD	41	F	1245.6	1245.7	.7	17	2		
	2800	OTTA	8	S	1451.7	1451.7	.1	8.8			
	930	BORD	8	S	1517.7	1517.7	.1	30	1		
	930	BORD	8	S	1521.7	1521.7	.1	41	1		
	2800	OTTA	3	S	2218	2220.3	4	16	5.4		
	2800	OTTA	30	PBI	2222	2222	68	3.6	1.8		
	2695	PENT	1	S	2316	2317	2	3	1.5		
16	260	ONDR	44	NS	0652 E		443 D	36			
	245	SGMR	44	NS	0926 E	1820.6	754 D	263			
	410	SGMR	43	NS	1151	1443.1	609 D	27			
	2800	OTTA	20	GRF	1240	1430	220	5.8	2.9		
	1415	SGMR	3	S	1345.2	1345.4	.4	11.8	2.4		
	2800	OTTA	8	S	1804.2	1804.2	.1	5			
	2800	OTTA	2	S/F	1827	1827.4	1.4	7.8	3		
	2800	OTTA	20	GRF	1840	1900	40	3	1.5		
	2800	OTTA	20	GRF	1955	2025	65	2.4	1.2		
	2800	OTTA	240	R	2127	2137	10	2.4	1.2		
17	1415	SYDN	40	F	0117.5	0117.9	1.1				
	2695	PENT	4	S/F	0117	0120.5	6	11.6	3.8		
	5730	IRKU			0117	0120.6		30			L
	5730	IRKU	45	C	0117	0118.2	6	10	10		L
	4995	BOUL	4	SF	0118.5	0120	4	33	11		
	700	SYDN	40	F	0119.2	0119.9	3.3				
	650	GORK	1	S	0532	0532.6	4	3			
	260	ONDR	44	NS	0546 E		508 D	94	4		
	245	SGMR	44	NS	0926 E	1309.8	754 D	39.5			3S
	536	ONDR	4	S/F	0732	0737.2	12	20	7.5		
	650	GORK	1	S	0735	0737.5	7	6	2.5		
	9500	BERL	1	S	0910.5	0911.4	2.5	6.1			
	950	GORK	2	SF	0910.8	0911.3	2.1	3			
	3000	BERL	1	S	0911	0911.3	2	5.7			
	9100	GORK	2	SF	0911.1	0911.4	1.4	6	3		
	2950	GORK	1	S	0911.2	0911.4	1.7	2.8	1.4		
	1470	BERL	1	S	0911	0911.2	1.5	1.2			
	650	GORK	1	S	0913.9	0914.7	2.9	1			
	930	BORD	8	S	1001	1001	.5	84	3		
	536	ONDR	41	F	1043.6	1044.3	2.5	20			
	29	UPIC	3	S	1049.5	1049.8	.5				
	33	UPIC	45	C	1049	1049.4	1.6				
	228	HARS	45	C	1151	1151.3	1	250	50		
	245	SGMR	6	S	1151	1151.6	2.4	151	60.4		
	234	POTS	41	F	1151.2	1152.7	2.2	150	15		
	228	HARS	45	C	1152	1152.4	1	350	75		
	410	SGMR	48	GB	1231.5	1232.2	1.5	666	266		5
	536	ONDR	8	S	1231.7	1231.7	.2	42			
	408	TRST	45	C	1231.9	1232.2	.5	410			
	33	UPIC	8	S	1232.2	1232.3	.4				
	29	UPIC	3	S	1232.4	1232.6	.4				
	7000	SAOP	40	F	1318	1319					
	10400	BERN	22	GRF	1352.5	1356	6.5	2	5		OPR
	10400	BERN	22		1352.5	1356	6.5	5			OPR
	2800	OTTA	24	R	1410	1540	90	10.6	5		
	2800	OTTA	27A	RF	1410		490	10.6	8.2		
	7000	SAOP	40	F	1507						
	2800	OTTA	24P	R	1540		270	10.6			
	8800	SGMR	3	S	1637.5	1644.2	11.6	108	32.4		
	4995	SGMR	3	S	1637.6	1643.8	14.4	48.7	14.6		
	7000	SAOP	45	C	1639.4	1644	6.4	77			0
	4995	BOUL	45	C	1639.5	1643	7.5	39	13		
	10400	BERN	46		1639.7	1644.1	20	82			OPR
	8400	BERN	46		1639.7	1644.1	20	78			OPR
	10400	BERN	46	C	1639.7	1644.1	20	28	82		OPR
	8400	BERN	46	C	1639.7	1644.1	20	29	78		OPR
	606	SGMR	3	S	1640.2	1644.4	9.2	36	10.8		
	1415	SGMR	1	S	1640.5	1644.4	7	37.1	1.1		
	9400	HUAN			1640.5	1645.6		81			R
	9400	HUAN		C	1640.5	1644.1	7.7	120.6	36.5		R
	2800	OTTA	46F	C	1640	1641.2	8	25.2	5		
	930	BORD	45	C	1640	1644.5	7	47	4		
	2695	SGMR	3	S	1641	1641.6	9	15.5	4.6		
	2695	BOUL	45	C	1641 E	1642	9 D	16	5		
	15400	SGMR	3	S	1643.2	1644	5.8	60.8	18.2		SWF
	8800	ATHN		F	1643.2	1644.2	5.5	82.3	41.1		
	2695	ATHN		F	1643.2	1644.2	3.6	10.2	5.1		
	4995	ATHN		F	1643.2	1644.2	5.7	41.3	20.7		
	9400	HUAN		PBI	1648.2	1648.2	24.5	6.6	2.7		0
	2800	OTTA	21	GRF	1720	1745	100	4.6	2		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
	9400	HUAN		S	1732.7	1745.8	47.1	9.9	4.8		R
	4995	BOUL	4	SF	1735.5	1737	3	12	4		
	7000	SAOP	3	S	1735.5	1737.8	3.8	18			O
	9400	HUAN		S	1736.6	1737.7	1.7	8.3	3.3		O
	2800	OTTA	1	S	1736	1737.8	3	5	2.4		
	9400	HUAN		S	2001.7	2010.2	35.7	11.6	3.9		O
	2800	OTTA	26	FAL	2010	2220	130	-10.6	-5.3		
	2695	PENT	20	GRF	2250	2410	170	5	2.5		
18	35000	NAGO	22	GRF	0048	0049.5	29	8			
	8400	BERN	20		0535.4	0544.8	15	15			OPR
	10400	BERN	20		0535.4	0544.8	15	10			OPR
	10400	BERN	20	GRF	0535.4	0544.8	15	3	10		OPR
	8400	BERN	20	GRF	0535.4	0544.8	15	6	15		OPR
	9100	GORK	20	GRF	0539.3	0544.8	7.5	13	6		
	260	ONDR	44	NS	0542 E		510 D	34	2		
	410	SGMR	44	NS	0924 E	1136.1	756 D	7.7			
	245	SGMR	44	NS	0924 E	1115.9	756 D	72.5			
	3100	CRIM	1	S	0543.5	0545	3	5	2		
	2950	GORK	1	S	0543.7	0544.7	2	4.9	2.4		
	808	ONDR	4	S/F	0655.6	0656.2	2	91	3		
	930	BORD	8	S	0910.2	0910.4	.4	53	4		
	930	BORD	46	C	1004.4	1004.6	1.1	187	2		
	930	BORD	8	S	1155.6	1155.6	.3	16	2		
	930	BORD	45	C	1204.8	1204.9	.8	138	3		
	7000	SAOP	40	F	1434						
	9400	HUAN		S	1533.8	1600	42.8	6.6	4.3		R
	2800	OTTA	21	GRF	1534	1550	115	6.4	3.2		
	7000	SAOP	3	S	1538	1539.5	3	17			O
	9100	ARCE	2	S/F	1538.5	1538.6	.6				
	10400	BERN	1	S	1538.9	1539.6	3	3	9		OPR
	8400	BERN	1	S	1538.9	1539.6	3	4	12		OPR
	10400	BERN	1		1538.9	1539.6	3	9			OPR
	8400	BERN	1		1538.9	1539.6	3	12			OPR
	9400	HUAN		S	1539.1	1539.6	1.3	8.3	4.4		O
	2695	ATHN		GRF	1539.3	1539.5	3.4	23.2	13.9		
	4995	ATHN		GRF	1539.3	1539.5	3.5	17.5	10.5		
	8800	ATHN		GRF	1539.3	1539.5	2.7	9	5.4		
	9100	ARCE	1	S	1539.4	1539.8	2				
	2650	DHIN	1	S	1539	1540	3	18	10		
	2800	OTTA	3	S	1539	1539.8	3	18	8		
	2800	OTTA	4	S/F	1544.1	1544.2	1	11.6	5.8		
	930	BORD	46	C	1559.4	1559.6	.3	258	2		
	9400	HUAN		S	1621.8	1637.5	35.5	6.6	4.6		R
	9400	HUAN		S	1925.6	1933.7	15	5	2.5		R
	2800	OTTA	20	GRF	1925	1928.5	25	3.6	1.8		
	9400	HUAN		S	1952.1	1957.2	19.7	10	7.6		O
	2800	OTTA	1	S	2153	2154	2	1.8	.9		
19	2950	GORK	1	S	0426	0426.6	3.1	12	6		
	9100	GORK	1	S	0426	0427	1.7	4	2		
	221	ABST	44	NS	0530	0514	240	13			
	260	ONDR	44	NS	0554 E		501 D	40	3		
	410	SGMR	44	NS	0923 E	1513	757 D	13			
	245	SGMR	44	NS	0923 E	1143.4	757 D	46.2			
	9100	ARCE	2	S/F	0842.4	0842.5	2.4				
	9100	ARCE	4	S/F	0847	0847.1	1.8				
	9400	HUAN		S	1716.8	1746.8	38.3	8	4.6		R
	9400	HUAN		S	1833.2	1945	30.9	4.8	3.4		O
	228	HARS	45	C	1933.5	1934	1.5	150	60		
	245	SGMR	6	S	1933.8	1934.5	2	214			
	2800	OTTA	20	GRF	2035	2110	80	6.6	3.6		
	2800	OTTA	20	GRF	2225	2300	100	6.6	3.4		
20	260	ONDR	44	NS	0556 E		494 D	54	2		
	127	TORN	44	NS	0730 E	0904.1	150 U	11	1.2		V1
	245	SGMR	44	NS	0922 E	1125.2	758 D	31.7			CONT,SWF
	410	SGMR	44	NS	0922 E	1206.1	758 D	74.4			CONT,SWF
	127	TORN	43	NS	1109	1232.4	200 D	21	5.8		V1
	33	UPIC	3	S	0642.9	0643.1	.5				
	29	UPIC	2	S/F	0643	0643.2	.4				
	9500	BERL	3	S	0731	0731.6	4	16			
	10400	BERN	4	S/F	0731.2	0731.7	5	7	19		
	8400	BERN	4	S/F	0731.2	0731.7	5	7	19		
	10400	BERN	4		0731.2	0731.7	5	19			
	8400	BERN	4		0731.2	0731.7	5	19			32L
	9100	GORK	2	SF	0731.3	0731.5	3.8	15	7		
	5730	IRKU	1	S	0731.3	0731.5	3	8	3		L
	221	ABST	6	S	0820	0820.5	1	25	11		
	200	GORK	4	SF	0821.1	0821.5	1.1	40 D			
	29	UPIC	2	S/F	0821.4	0822	.6				
	33	UPIC	3	S	0821.8	0822	.5				
	221	ABST	45	C	0928	0929	3	46	20		
	234	BERL	42	SER	0931.5	0936.2	5.8	875	3		
	225	HARS	45	C	0935.3	0936.2	2	200	40		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	200	GORK	4	SF	0936	0937	1.9	40 D			
	650	GORK	2	SF	0936.2	0936.9	3.4	7.5	2		
	234	POTS	4	S/F	0936.3	0936.8	1.1	175	2		
	408	TRST	42	SER	0936.3	0936.7	1.4	160			
	100	GORK	45	C	0936.4	0936.9	3.5	70 D			
	100	GORK			0936.4	0938.9		70			
	100	GORK			0936.4	0937.6		70 D			
	29	UPIC	46	C	0936.6	0937.1	4.1				
	33	UPIC	46	C	0936.6	0937	3.9				
	113	POTS	41	F	0936.6	0937	1.8	150	5		
	3100	CRIM	1	S	0938	0933	3	3	1		
	2950	GORK	1	S	0938.4	0939	1.6	4.5	2.2		
	29	UPIC	2	S/F	0943.7	0943.9	.5				
	33	UPIC	2	S/F	0943.8	0943.9	.7				
	2800	OTTA	21	GRF	1105	1130	60	4.8	2.6		
	1470	BERL	23	GRF	1107	1112.5	12	9.4			
	9500	BERL	20	GRF	1107	1127.7	53	12			
	2800	OTTA	2	S/F	1107	1113	8	6	3.2		
	29	UPIC	41	F	1109.5	1112.5	23.9				
	33	UPIC	41	F	1109.5	1112.4	30				
	127	TORN	46	C	1110	1114.1	5	89			
	3000	BERL	4	S/F	1113	1114.5	3	112			
	9500	BERL	20	GRF	1113.5	1114.7	97	7.4			
	29	UPIC	8	S	1154.3	1154.5	.4				
	33	UPIC	8	S	1154.6	1154.6	.3				
	9400	HUAN		S	1202.9	1212.8	20.5	6.9	2.2		R
	2800	OTTA	20	GRF	1310	1340	150	4.2	2.4		
	29	UPIC	3	S	1315.6	1315.8	.3				
	33	UPIC	8	S	1315.6	1315.6	.3				
	9500	BERL	20	GRF	1315	1406	73	4.3			
	3000	BERL	20	GRF	1315 U	1330	70	5.8			
	9400	HUAN		S	1338.2	1359.8	40.5	5.2	2.9		D
	4995	BOUL	3	S	1353	1409	22	23	8		
	9400	HUAN		S	1749	1754.2	8.6	4.3	2.8		D
	9400	HUAN		S	1826.2	1856.6	61.2	8.6	6		D
	9400	HUAN		S	1930.4	1959.5	97.2	10.4	7.4		D
	2800	OTTA	1	S	2111.5	2112	1	3	1.2		
	2695	PENT	2	S/F	2341	2346	7	5	2.9		
21	1415	SYDN	4	S	0145.9	0147.1	2				
	700	SYDN	4	S	0146	0146.6	1.8				
	221	ABST	6	S	0510	0510.5	1	25	9		
	100	GORK	43	NS	0529.4	0530.1	3.4	200 D			
	3100	CRIM	1	S	0529	0534	5	11	4		
	100	GORK			0529.4	0531.7		195			
	100	GORK			0529.4	0531.1		195			
	2950	GORK	1	S	0529.5	0530	3	10			
	5730	IRKU	1	S	0529.6	0530	4	7	3		L
	9100	GORK	20	GRF	0529.8	0540.3	33.5	8	4		
	950	GORK	2	SF	0530	0530.2	.7	1.7			
	200	GORK	4	SF	0530	0530.4	1.1	40 D			
	33	UPIC	45	C	0530	0531.5	2.5				
	29	UPIC	45	C	0530	0531.2	2.8				
	650	GORK	22	GRF	0532.6	0539.6	11.1	12.5			
	2695	MANI		S	0636.3	0636.5	.3	1 6.3	2.1		
	1415	MANI		S	0636.3	0636.5	.4	1 3.9	1.3		
	930	BORO	41	F	0637.4	0637.4	.1	15	1		
	9100	GORK	20	GRF	0709	0854	240	24	12		
	9100	ARCE	1	S	0819	0819.1	1				
	930	BORO	8	S	1007.2	1007.2	.2	26	2		
	29	UPIC	45	C	1009.4	1011	2.1				
	33	UPIC	45	C	1009	1010.7	2				
	9400	HUAN		S	1223	1238.5	25.2	5.2	3.3		R
	2800	OTTA	26	FAL	1240	1255	15	-3.6	-1.8		
	2800	OTTA	20	GRF	1445	1455	65	2.4	1.4		
	2800	OTTA	20	GRF	2010	2055	150	3.6	2.2		
22	536	ONDR	4	S/F	0710	0711.2	2	38	4		
	260	ONDR	42	SER	0916	0931.7	24	135			
	1415	SGMR	3	S	1110.3	1114.4	8.2	42.3	4.8		
	9100	GORK	20	GRF	1112.1	1114.5	97	10	14		
	2695	ATHN		F	1112.5	1114.8	7.2	91.8	45.9		
	4995	ATHN		F	1112.6	1114.6	7.1	28.8	14.4		
	4995	SGMR	3	S	1112.6	1114.3	5	27	2.7		
	2800	OTTA	4	S/F	1112	1114.8	4	73.8	21.6		
	2650	DWIN	45	C	1112	1114	4	100	40		
	2695	SGMR	3	S	1113	1114.8	5.7	73.9	7.4		
	8800	SGMR	3	S	1113	1115.4	4	11.8	1.2		
	8800	ATHN		GRF	1113.6	1114.6	5.6	8.8	5.3		
	1415	ATHN		F	1113.8	1114.6	2.3	41	20.5		
	2950	GORK	29	PBI	1113.8	1116	50	6.2			
	2950	GORK	3	S	1113.8	1114.8	2.7	142			
	2800	OTTA	29	PBI	1116	1116	104	8.6	6.9		
	260	ONDR	42	SER	1325	1350.7	27	7			
	2800	OTTA	20	GRF	1450	1535	90	1.8	.9		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	2800	OTTA	20 GRF	1635	1840	255	3	1.5		
	2800	OTTA	21 GRF	2125	2240	185	2.6	1.3		
	2695	PENT	8 S	2347.9	2347.9	.1	3.6			
23	221	ABST	41 F	0528	0536.8	15	21			
	260	ONDR	44 NS	0540 E		517 D	29			
	221	ABST	43 NS	0903.5	0939	57	13			
	245	SGMR	44 NS	0920 E	1620.2	760 D	57.6			
	221	ABST	6 S	0733.5	0733.8	1	19	8		
	2950	GORK	1 S	1014	1015.2	3.1	10	5		
	930	BORD	8 S	1016.5	1016.5	.2	22	1		
	930	BORD	41 F	1026.5	1026.5	.5	20	3		
	33	UPIC	45 C	1026.8	1026.9	.9				
	29	UPIC	45 C	1026.9	1027	.9				
	29	UPIC	3 S	1058	1058.3	.4				
	33	UPIC	3 S	1058	1058.2	.5				
	2800	OTTA	20 GRF	1130	1155	85	3.2	1.8		
	228	HARS	45 C	1209	1209.2	1.5	148	51		
	9100	ARCE	1 S	1210.5	1210.8	1				
	2800	OTTA	21 GRF	1348	1430	57	2	1		
	1470	BERL	1 S	1405.8	1406.6	2.2	3.1			
	3000	BERL	3 S	1406	1406.5	1	6.7			
	2695	PENT	1 S	1406	1406.6	2	3.6	1.6		
	7000	SAOP	4 S/F	1554	1554.8	3.6	19.5			O
	2800	OTTA	26 FAL	2035	2040	5	-2.2	-1.1		
	2695	PENT	27 RF	2110		225	2.8	2.4		
	2695	PENT	24 R	2110	2130	20	2.8	1.4		
	2695	PENT	24P R	2130	2410	160	2.8			
	2695	PENT	26 FAL	2410	2455	45	-2.8	-1.4		
24	200	HIRA	43 NS	0100	0525	525 D	40	10		ML
	200	GORK	44 NS	0251 E		540		10		
	100	GORK	43 NS	0409 E		111		10		
	221	ABST	44 NS	0500	0525.8	360	17			
	260	ONDR	44 NS	0540 E		512 D	78	13		
	410	SGMR	44 NS	0918 E	1320.1	762 D	44			
	245	SGMR	44 NS	0918 E	1324.7	762 D	262			
	127	TORN	43 NS	0937 U	1034.2	130 U	47	1		V1
	228	HARS	45 C	0416	0416.6	1.2	727	240		
	950	GORK	2 SF	0717.3	0719.7	4.4	2.2			
	100	GORK	41 F	0722.1	0727.1		110			
	100	GORK	41 F	0722.1	0722.6	5.2	180			
	234	POTS	42	0802.4	0806.4	4.2	280	1 D		
	29	UPIC	8 S	0829.8	0830	.5				
	33	UPIC	8 S	0829.8	0830	.6				
	33	UPIC	45 C	0833.6	0834.8	2.5				
	29	UPIC	45 C	0834.4	0834.9	1.6				
	100	GORK		0834.9	0835.5		80			
	100	GORK	46 C	0834.9	0835.1	1.3	180			
	2950	GORK	1 S	1013.5	1015	3.7	15	7.5		
	33	UPIC	42 SER	1013.8	1033.9	21.8				
	3000	BERL	3	1014	1015	3	11			
	1470	BERL	1	1014	1015.4	3	3.8			
	950	GORK	1 S	1014	1015	3.3	2.1			
	2650	DWIN	1 S	1014	1015	3	10	5		
	650	GORK	1 S	1015	1016.3	4.2	2.5			
	200	GORK	4 SF	1032.4	1034.7	4	40			
	100	GORK	5 S	1032.5	1033.9	3.4	120			
	2800	OTTA	21 GRF	1258	1303	65	2	1		
	113	POTS	4	1300.9	1301	.2	800	160		
	10400	BERN	3 S	1328.7	1333.6	18	10	29		OPR
	10400	BERN	3	1328.7	1333.6	18	29			OPR
	7000	SAOP	3 S	1331.8	1333.8	2.4	17			O
	2695	ATHN	S	1332	1332.6	1.8	17.9	5.4		
	9400	HUAN	S	1332.2	1333.7	2.8	24.2	12		C
	1415	ATHN	S	1332.5	1333	3.8	32.8	9.8		
	4995	ATHN	GRF	1332.6	1333.2	1.9	17.6	10.5		
	8800	ATHN	GRF	1332.6	1333.2	2.2	18.4	11		
	1415	SGMR	3 S	1332.6	1333.2	2.1	35	7		SWF
	1470	BERL	4	1332.7	1333.5	1.8	18			
	4995	SGMR	1 S	1332.8	1333.5	2	8	2		SWF
	8800	SGMR	3 S	1332.8	1333.8	2	15	3		SWF
	15400	SGMR	3 S	1332.9	1333.6	1.7	28	6		SWF
	3000	BERL	3	1332.9	1333.4	2.1	11			
	2800	OTTA	1A S	1332	1333	3	5.4	2.7		
	9500	BERL	3	1333	1333.5	1.5	25			
	2695	SGMR	3 S	1333.2	1333.3	1.6	13	2.5		SWF
	2800	OTTA	8 S	1333	1333	.3	19.4			
	2650	DWIN	2 S/F	1333	1333	2	25	5		
	2800	OTTA	24 R	1505	1520	15	3.2	1.4		
	2800	OTTA	27A RF	1505		180	3.2	2.9		
	2800	OTTA	24P R	1520		144	3.2			
	410	SGMR	6 S	1738.6	1739.4	4.4	100	30		
	606	SGMR	1 S	1740	1740.9	2.2	6.7	2		
	1415	SGMR	1 S	1740.6	1741.3	1.8	1.9	0.6		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	2800	OTTA	1	S	1740	1741.2	2	6.4	3		
	2800	OTTA	26	FAL	1744	1805	21	-3.2	-1.6		
	2800	OTTA	20	GRF	2130	2240	180	3.6	1.6		
25	228	HARS	45	C	0414.2	0414.4	1.2	389	131		
	260	ONDR	44	NS	0548 E		507 D	39			
	221	ABST	44	NS	0600	0931.2	240	9			
	100	GORK	43	NS	0634		68.6		5		
	410	SGMR	44	NS	0918 E	1509	762 D	20			
	245	SGMR	44	NS	0918 E	1426.8	762 D	45			
	1415	SGMR	44	NS	1204.9	1205.8	1.1	10.8	3.2		
	606	SGMR	44	NS	1205.8	1205.9	.2	8.1	2.4		
	33	UPIC	4	S/F	0908	0908.1	.6				
	29	UPIC	4	S/F	0908	0908.2	.5				
	2800	OTTA	20	GRF	1055	1205	185	4.8	2.4		
	930	BORD	8	S	1215.9	1216	.2	55	3		
	10715	DWIN	1	S	1332	1334	3	20	10		
	2800	OTTA	20	GRF	1404	1416	70	2	1		
	930	BORD	41	F	1558.4	1558.8	.6	28	3		
	2800	OTTA	20	GRF	1600	1640	125	2.8	1.4		
	2800	OTTA	8	S	2208.6	2208.6	.1	19.4			
26	113	POTS	8		0708	0708		100	30		
	260	ONDR	42	SER	0918	0930.7	20	25			
	113	POTS	41		0937.9	0937.9	.7	200	5		
	408	TRST	41	F	1027.9	1028.9	2.4	45			
	260	ONDR	42	SER	1148	1244.2	63	118			
	29	UPIC	45	C	1206.8	1207.5	2				
	113	POTS	4		1206.8	1206.9	.8	550	25		
	33	UPIC	45	C	1206.9	1207.5	2				
	228	HARS	45	C	1243.8	1244.2	1.6	154	53		
	7000	SAOP	40	F	1443						
	1420	BOUL	3	S	1857.5E	1858	2 D	27	9		
	2800	OTTA	1	S	1857	1858.3	3	4.2	2.1		
	2800	OTTA	20	GRF	2040	2105	45	2.2	1.1		
27	260	ONDR	3	S	0618.6	0618.6	.5	15			
	260	ONDR	3	S	1048.3	1048.3	1	8			
	33	UPIC	4	S/F	1052.8	1052.8	.5				
	29	UPIC	2	S/F	1053	1053.2	.6				
	33	UPIC	46	C	1138.3	1138.6	2.3				
	29	UPIC	46	C	1138.6	1139.1	2.2				
	245	SGMR	43	NS	1743.7	1838.2	256.3D	135			
	410	SGMR	43	NS	1752	1753	248 D	54.3			
	228	HARS	45	C	1801.6	1802	1.2	105	37		
	245	SGMR	6	S	1801.8	1802.4	1.8	97.2	29.2		
	410	SGMR	6	S	1801.8	1802.4	2.2	51.9	15.6		
	606	SGMR	3	S	1802	1802.4	1.5	15.7	4.7		
	228	HARS	45	C	1837.6	1838	2.4	197	68		
	2800	OTTA	21	GRF	1910	2020	130	2.6	1.4		
	2800	OTTA	1	S	1914.6	1915	2.5	3.8	1.4		
28	930	BORD	41	F	0626.8	0627.5	.7	28	2		
	29	UPIC	4	S/F	0639.1	0639.6	.6				
	33	UPIC	4	S/F	0639.2	0639.3	.4				
	260	ONDR	42	SER	0726	0829.6	90	30			
	33	UPIC	8	S	0748.2	0748.2	.3				
	29	UPIC	3	S	0748	0748.1	.2				
	228	HARS	45	C	0940.4	0941.2	2.9	315	30		
	260	ONDR	45	C	0940.5	0941.6	3	62	19		
	221	ABST	48	C	0940.8	0941.8	3	45	21		
	234	POTS	4		0941.2	0941.8	1.6	420	30		
	930	BORD	41	F	0950.8	0950.8	.3	13	2		
	29	UPIC	2	S/F	1015.8	1015.9	.5				
	33	UPIC	4	S/F	1016.1	1016.2	.4				
	930	BORD	41	F	1017	1017.3	.8	117	3		
	2800	OTTA	20	GRF	1112	1140	90	2.8	1.4		
	33	UPIC	3	S	1135.6	1135.9	.5				
	29	UPIC	3	S	1135.8	1136	.3				
	930	BORD	45	C	1201.4	1201.6	.6	101	3		
	260	ONDR	45	C	1247.5	1248.8	2	57	13.5		
	245	SGMR	6	S	1248.2	1249.3	2.2	56.8	17		
	245	SGMR	43	NS	1400	1828.8	480 D	33.3			
	930	BORD	41	F	1517.4	1517.4	.4	147	2		
	930	BORD	8	S	1521.6	1521.8	.4	170	2		
	930	BORD	41	F	1548.8	1549.3	.6	253	2		
	2800	OTTA	20	GRF	2220	2255	110	5	2.6		
29	228	HARS	45	C	0405.8	0405.9	1.7	145	35		
	1415	SYDN	4	S	0406	0406.4	1.6				
	700	SYDN	45	C	0406	0406.5	1.7				
	200	GORK	4	SF	0406.1	0407.1	1.7	100			
	650	GORK	4	SF	0406.2	0406.6	1.8	136			
	950	GORK	2	SF	0406.3	0406.8	.8	23			
	200	GORK	4	SF	0514	0514.3	1.6	50			

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	260	ONDR	43	NS	0716		417 D	35			
	245	SGMR	44	NS	0915 E	1445.2	765 D	42.9			
	410	SGMR	44	NS	0915 E	1752	765 D	42.9			
	29	UPIC	45	C	0719.9	0722.5	4.4				
	1470	BERL	20		0719	0725	11	4.1			
	536	ONDR	8	S	0724.6	0724.6	.3	65			
	5730	IRKU	1	S	0744.2	0744.5	4	3			R
	3100	CRIM	1	S	0946	0946.5	1	8	2		
	930	BORD	46	C	1008.7	1009	.6	84	4		
	221	ABST	6	S	1014	1014.5	1	19	8		
	33	UPIC	42	SER	1045.4	1046.5	11.5				
	29	UPIC	42	SER	1045.4	1046.4	11				
	536	ONDR	42	SER	1045.7	1045.7	5	42			
	606	SGMR	3	S	1045.8	1046.7	1.7	86.9	26.1		
	8800	ATHN		GRF	1045.8	1046.1	5.2	13.1	7.8		
	2635	ATHN		GRF	1045.8	1046.1	4.2	6.9	4.1		
	4995	ATHN		GRF	1045.8	1046.1	5.2	15.1	9		
	410	SGMR	6	S	1046.1	1046.8	.9	110	33		
	408	TRST	41	F	1046.1	1046.7	5.6	110			
	9100	ARCE	1	S	1046.1	1046.3	.6				
	113	POTS	42		1046.2	1053	11	330	6		
	9130	GORK	2	SF	1046.2	1046.4	1.9	9			
	930	BORD	8	S	1046.5	1046.8	.7	59	2		
	9100	ARCE	29	PBI	1046.7		3.7				
	9100	ARCE	3	S	1201.9	1202	1.8				
	9100	ARCE	1	S	1204	1204.2	.6				
	228	MARS	45	C	1303.3	1307.2	5	285	10		
	930	BORD	45	C	1304.6	1304.8	.4	84	2		
	260	ONDR	4	S/F	1305.4	1306.8	3	218 D	16		
	234	POTS	4		1306.2	1307.2	1.6	450	15		
	606	SGMR	1	S	1306.3	1306.4	2.4	2.2	0.7		
	113	POTS	4		1453.4	1453.9	1.2	200	20		
	930	BORD	41	F	1556	1556.2	.6	77	2		
	228	MARS	45	C	1558	1600.5	4.5	145	8		
	606	SGMR	1	S	1558.6	1600.6	2.9	5.5	1.7		
	245	SGMR	6	S	1558.8	1601	3.6	130	38		
	410	SGMR	6	S	1600.6	1601	1.4	110	33		
	245	SGMR	6	S	1904.9	1905.7	2.1	71.6	21.5		
	410	SGMR	6	S	1905.2	1905.7	1.2	41.4	12.4		
	245	SGMR	6	S	1927.3	1927.5	1.8	73	22		3G
	410	SGMR	6	S	1927.6	1927.8	.8	39	12		3G
	410	SGMR	6	S	1959.2	2000.5	1.7	18.5	5.5		
	245	SGMR	6	S	2000.3	2000.4	.2	11	3.3		
	245	SGMR	6	S	2043.4	2043.4	.5	161	48		
	410	SGMR	6	S	2043.1	2043.3	.5	16.6	5		
	245	SGMR	6	S	2051.8	2052.3	1.4	428	178		
	410	SGMR	6	S	2051.8	2052.3	1.3	23.1	9.3		
	410	SGMR	7	C	2105.2	2110.5		44.7			3G
	410	SGMR	7	C	2105.2	2106.9	7.6	38.1	13.4		3G
	245	SGMR	7	C	2105.2	2111		71.6			3G
	245	SGMR	7	C	2105.2	2106	6.6	55.4	21.5		3G
	2800	OTTA	2	S/F	2125.5	2126.7	3	4			
	245	SGMR	6	S	2129.7	2130	.5	67.9	20.4		3G
	410	SGMR	6	S	2129.8	2129.9	.2	68.6	20.6		3G
	245	SGMR	6	S	2157.7	2159.6	2.30	216	65		
	410	SGMR	6	S	2158	2159.8	2 D	139	42		
	606	SGMR	6	S	2159	2159.7	1 D	56.1	16.8		
30	930	BORD	41	F	0615.2	0615.9	.8	20	2		
	3100	CRIM	20	GRF	0625	0806		6			
	260	ONDR	42	SER	0722	0746.6	63	10			
	33	UPIC	4	S/F	0902.4	0902.8	1				
	29	UPIC	2	S/F	0902.5	0902.6	.5				
	930	BORD	41	F	1001.2	1001.2	.7	94	2		
	930	BORD	45	C	1140.4	1140.7	.5	88	2		
	2800	OTTA	20	GRF	1230	1340	170	3.4	1.8		
	2800	OTTA	240	AR	1640	1710	30	2.8	1.4		
	2800	OTTA	8	S	1653	1653	.3	2.2			
	2800	OTTA	240	R	1910	1920	10	2.4	1.2		
	9400	HUAN		S	2035.6	2036	1.4	9.8	4.9		0
31	33	UPIC	3	S	0509.6	0509.7	.2				
	29	UPIC	3	S	0509.7	0509.8	.3				
	260	ONDR	44	NS	0542 E		512 D	22			
	127	TORN	44	NS	0720 E		300 D		7		V1
	245	SGMR	44	NS	0914 E	1935	766 D	70			
	100	HIRA	44	NS	1930 E	2335	360 D	170	120		SL
	3100	CRIM	20	GRF	0610	0748		7			
	9100	ARCE	1	S	0700.2	0700.6	1.2				
	29	UPIC	46	C	0711.7	0713.2	3.9				
	33	UPIC	46	C	0711.8	0713.1	4.5				
	3100	CRIM	1	S	0804.5	0806	3	1	.5		
	9100	ARCE	40	F	0824.2	0825.5	2.3				
	5730	IRKU	1	S	0834	0835	7	12	4		R
	9100	GORK	1	S	0834.1	0834.8	1.5	9	4.5		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

MAY 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	9100	ARCE	22	GRF	0834	0834.7	14.5				
	3100	CRIM	1	S	0837.5	0839	2	2	1		
	221	ABST	6	S	0947.5	0948	1	31	10		
	29	UPIC	42	SER	0948.4	0948.5	14.6				
	113	POTS	42		0948.5	0948.6	11	200	1		
	33	UPIC	42	SER	0948.6	0948.6	13.9				
	2800	OTTA	20	GRF	1130	1143	60	4.2	2.1		
	2800	OTTA	20	GRF	1305	1330	50	3.6	1.8		
	2800	OTTA	240	R	1410	1500	50	3.2	1.6		
	1420	BERL	4		1431	1433	3	8.9			
	930	BORD	46	C	1546.6	1546.7	.4	38	2		
	2800	OTTA	240	R	1635	1700	25	2.2	1.1		
	2800	OTTA	20	GRF	1850	1857	70	1.6	1.1		
	2800	OTTA	20	GRF	2110	2135	110	2.2	1.6		
	2695	PENT	240	R	2310	2330	20	2.2	1.1		

Reports received from the following observatories:

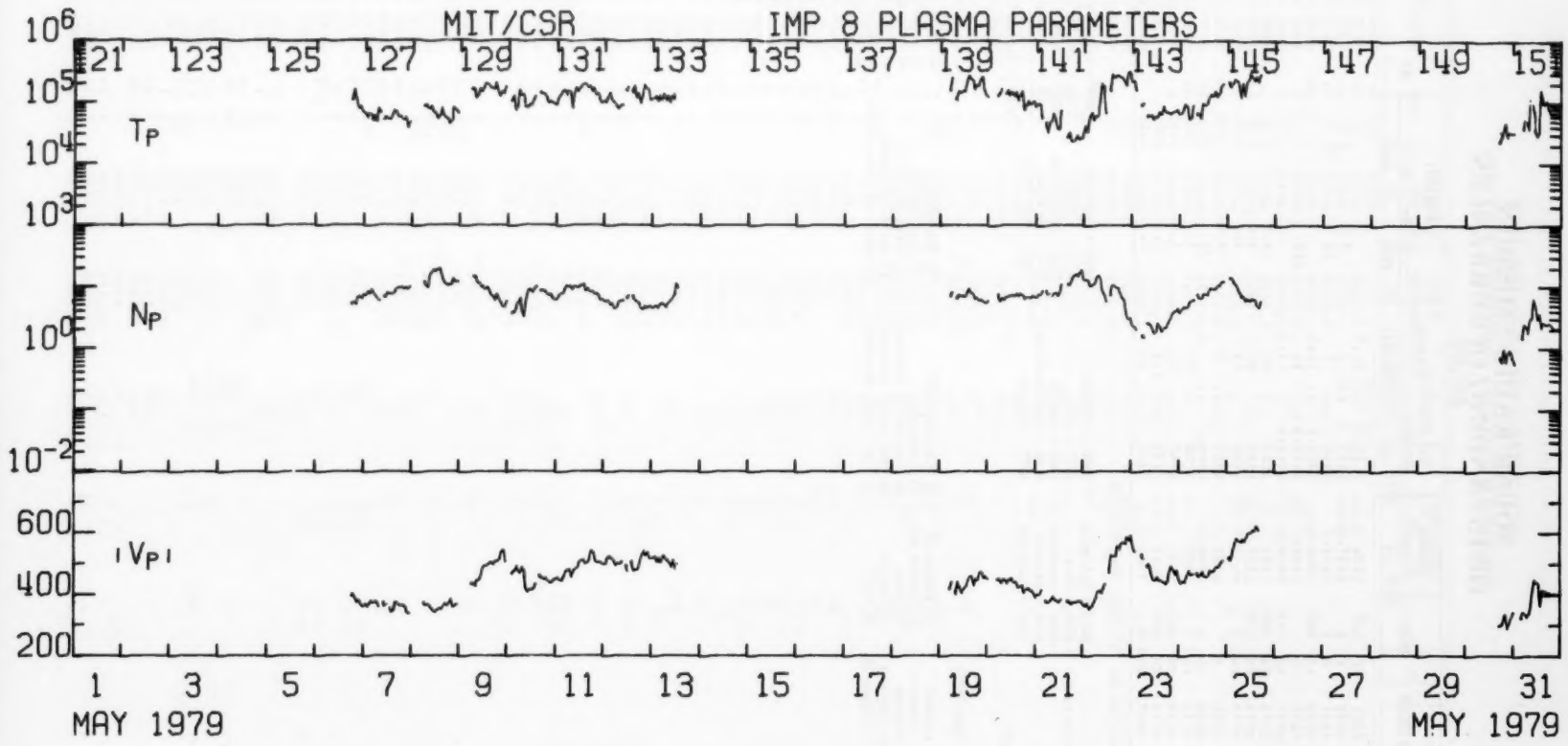
ARCE = Arcetri
BERL = Berlin-Adlershof
BERN = Berne
BORD = Bordeaux
BOUL = Boulder
CRIM = Simferopol
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
NAGO = Nagoya
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
SYDN = Sydney
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
VORO = Voroshilov (Ussurisk)

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

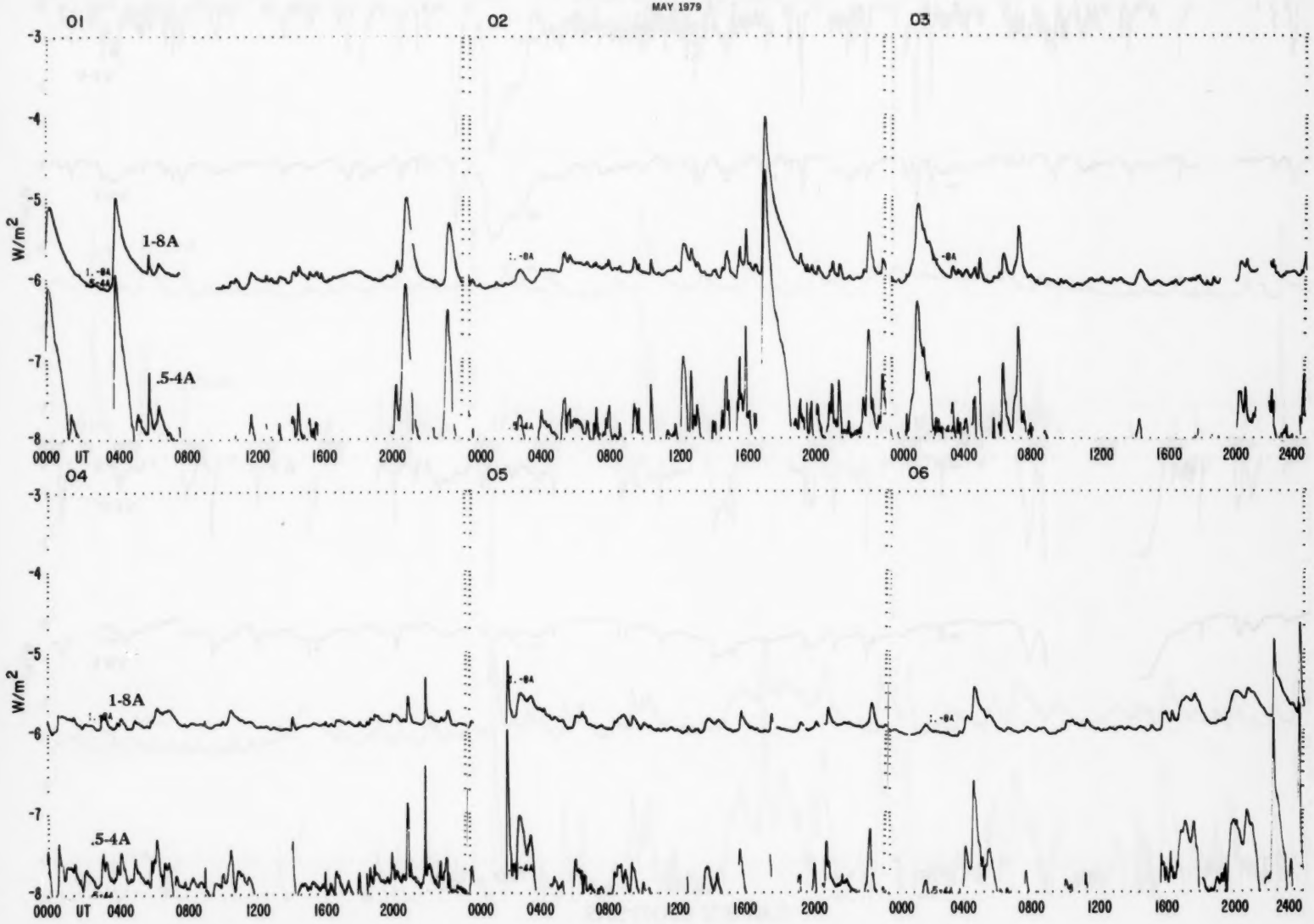
IMP 8 SOLAR WIND PLASMA

MAY 1979



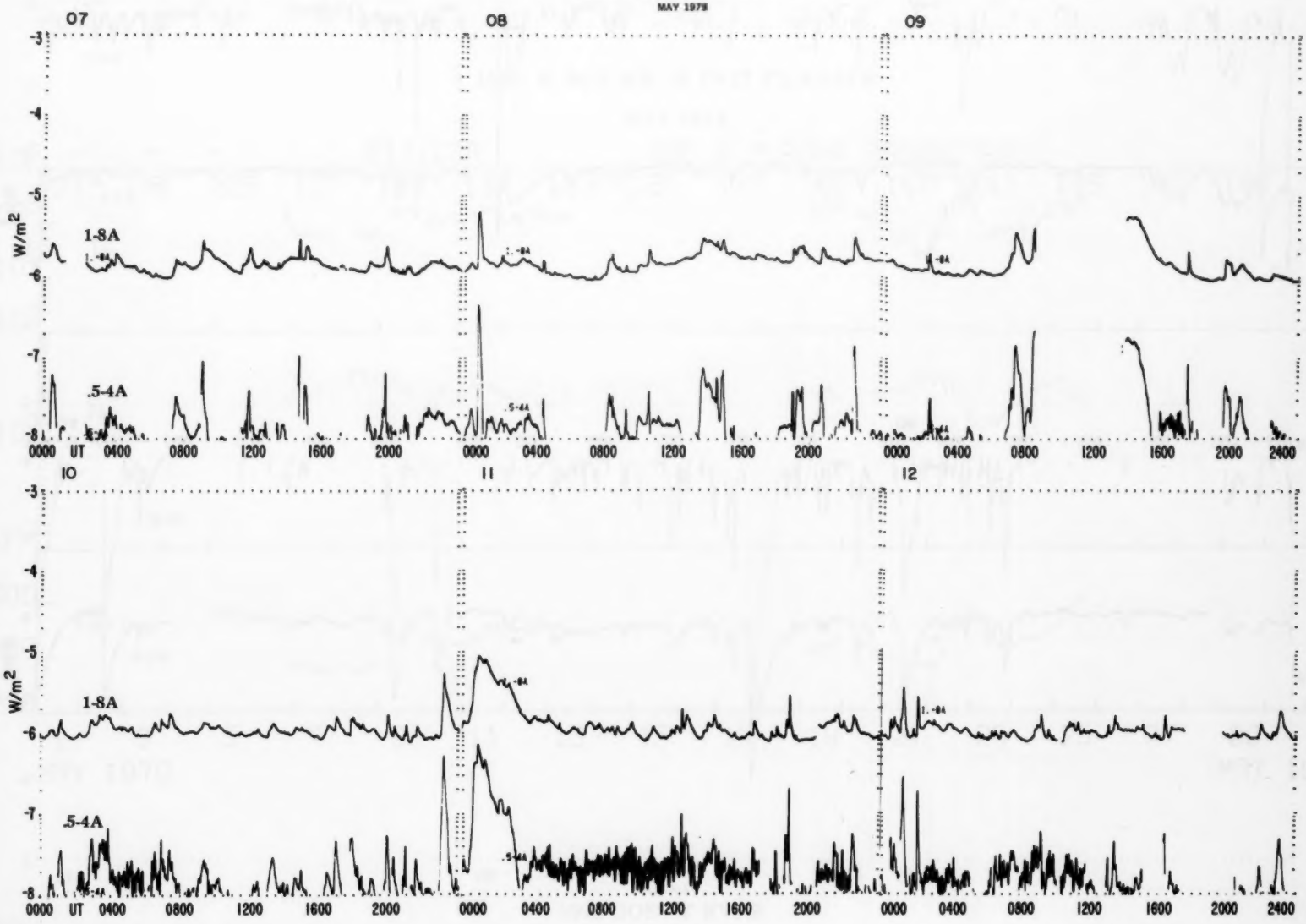
SMS-GOES X-RAYS

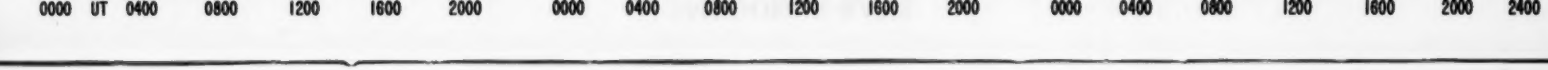
MAY 1979



SMS-GOES X-RAYS

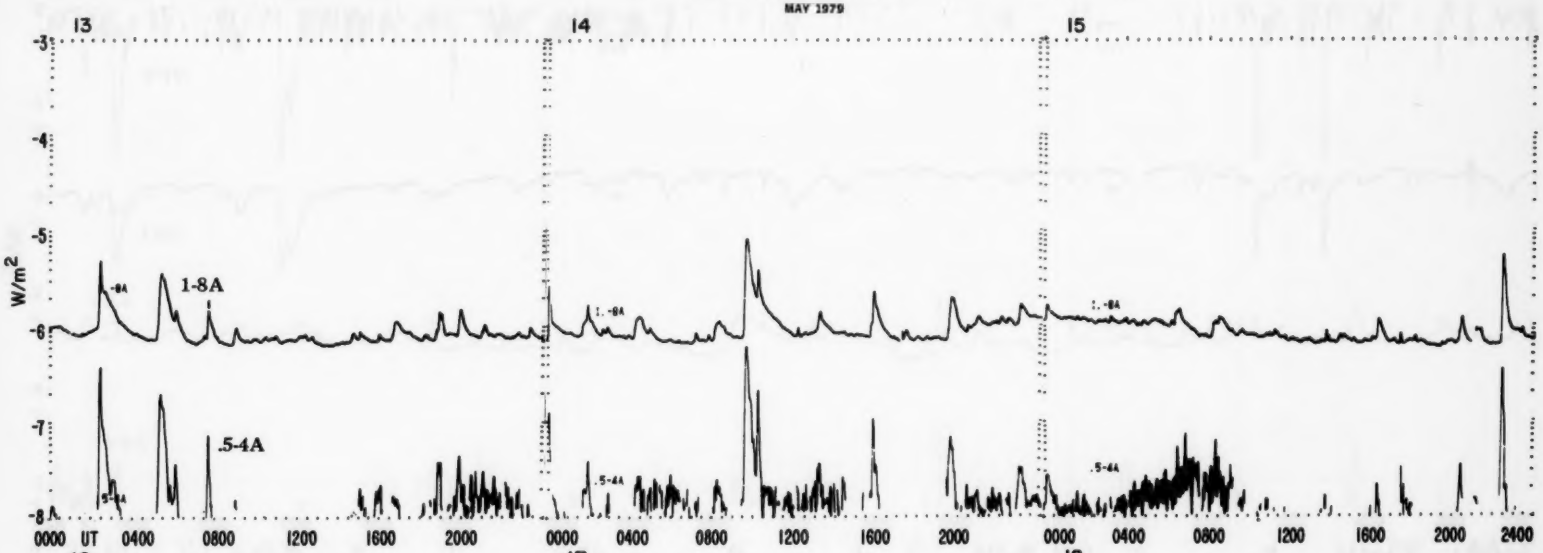
MAY 1979

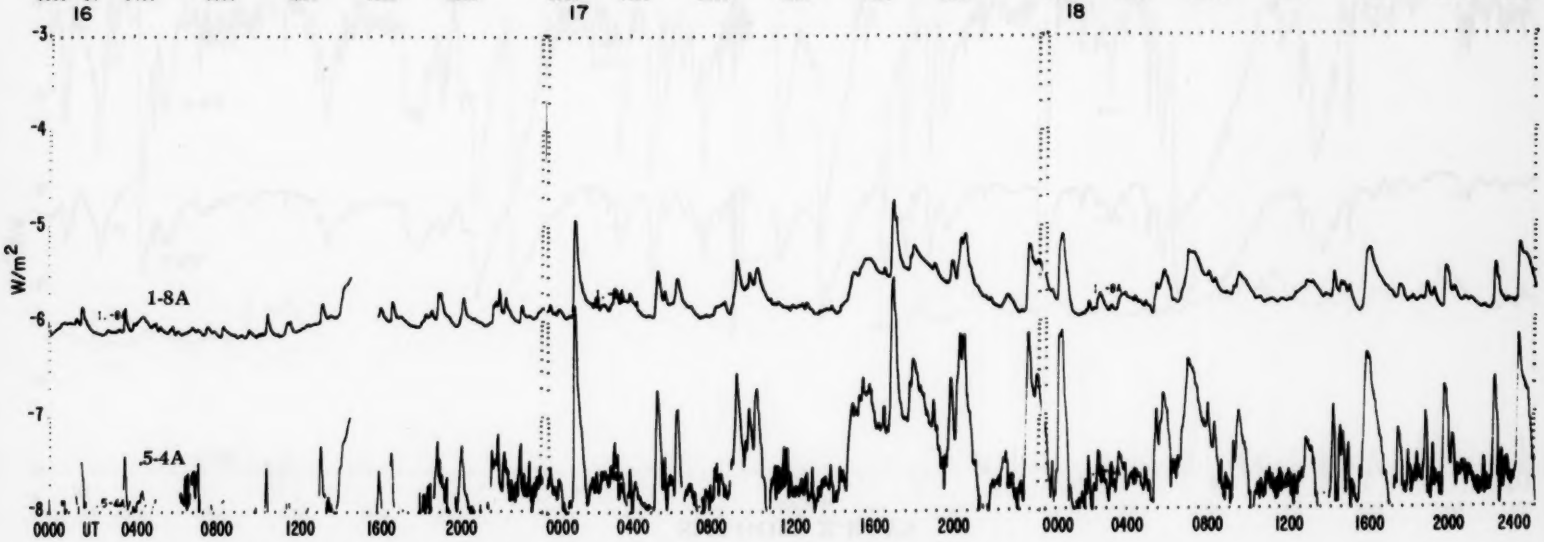


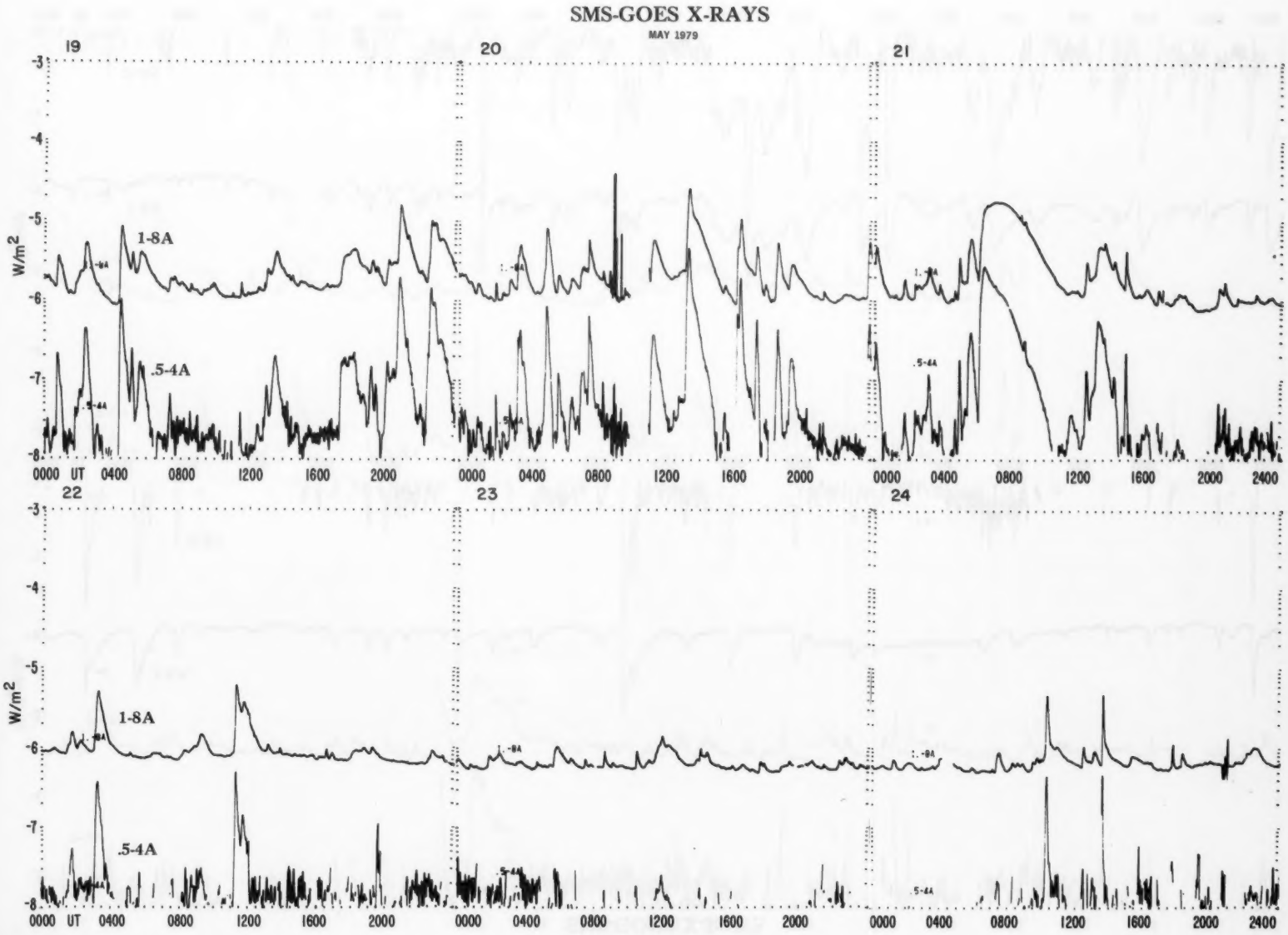


SMS-GOES X-RAYS

MAY 1979

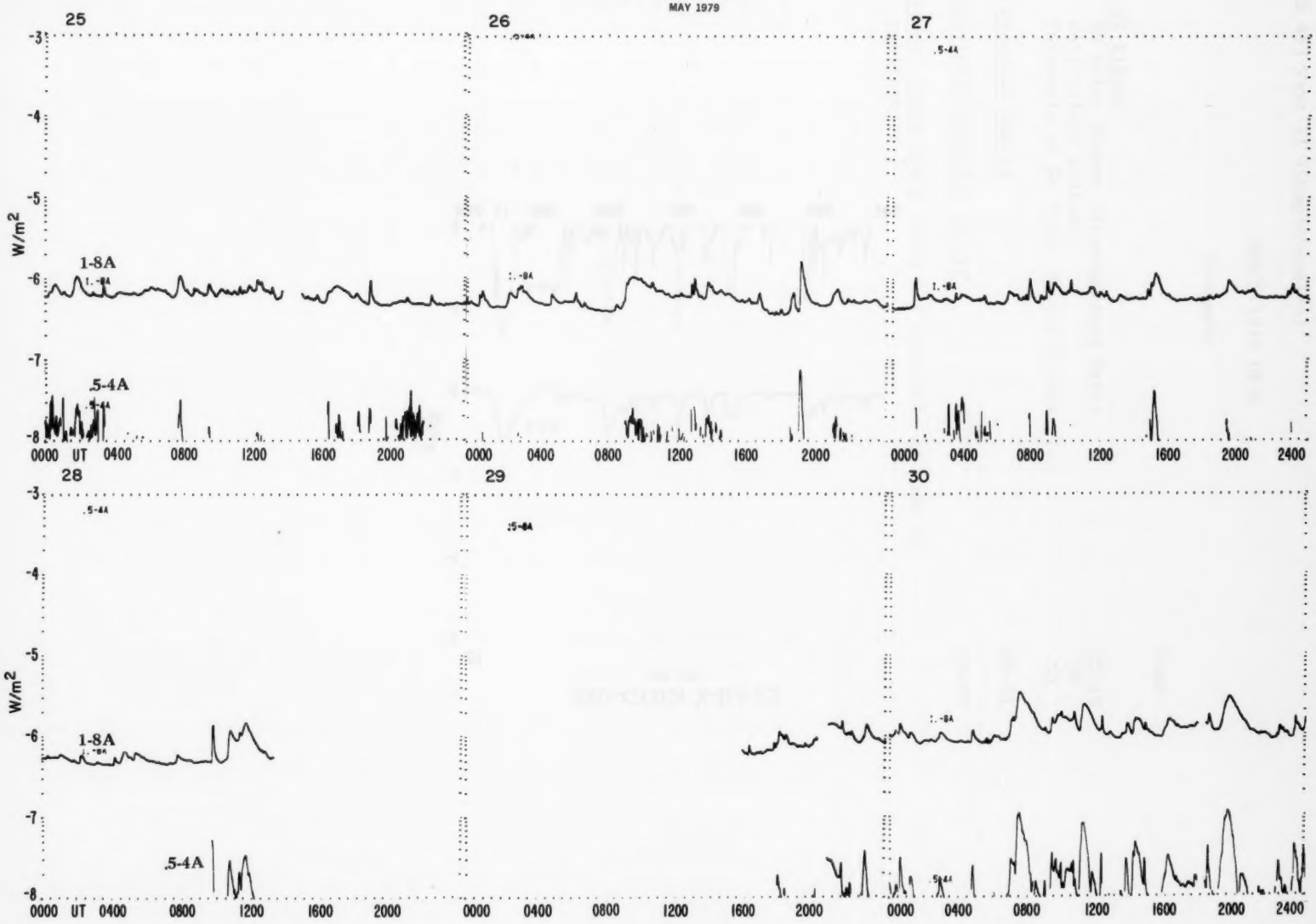


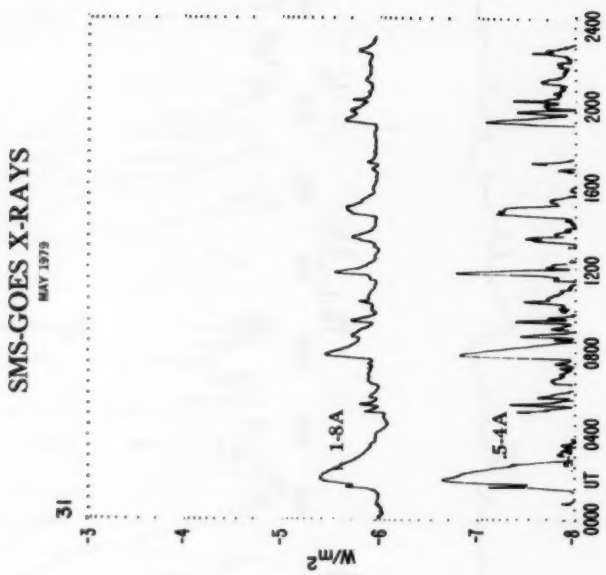



SMS-GOES X-RAYS
MAY 1979
19
20
21
22
23
24
W/m2
1-8A
.5-4A
0000 UT
0400
0800
1200
1600
2000
2400

SMS-GOES X-RAYS

MAY 1979




SMS-GOES X-RAYS
MAY 1979
31
-3
-4
-5
-6
-7
-8
W/m²
1-8A
.5-4A
0000 UT
0400
0800
1200
1600
2000
2400

SGD 423 Part II (Comprehensive)

MARCH 1979 DATA

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Hα SOLAR FLARES

MARCH 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONO.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
635 PEKG	01	0415	0417	0424	S41	E11	.576	0	2.0	9	-F		C	0417	42	26.0	D	Y5
GRP72636	01	0702>9	0708 0720	0726	N16	E90	1.001	15863	8.0	24	1F						ADJY	
TACH	01	0702	0708	0720	N18	E90	1.001	15863	8.0	18	2F		C	0708	176		Y	
ABST	01	0716	0720	0731	N14	E90	1.000	15863	8.1	15	1F		C	0720	174		ADJ	
637 ABST	01	0834	0836	0840	N09	E56	.849	15855	5.6	6	-F		C	0836	87	1.6	D	Y5
638 KHAR	01 IMP.1	0900E NO ! ABST		1005D MONT	N18	E90	1.001	15863	8.1	65D	?N		P	0928			HT	Y5
639 ABST	01	0915E	0917	0940D	S26	E42	.696	15850	4.5	25D	-N		P	0917	87	1.2	D	Y5
GRP72640	01	0928+1	0928	0933D	S19	E90	.999	15864	8.1	5	-N						DH	
KANZ	01	0928	0928	0933	S18	E90	.999	15864	8.1	5	-B	1					D	
KHAR	01	0929		0936D	S22	E90	.999	15864	8.1	7D	-N		P	0929			H	
KHAR	01	0930	0940	1003D	S18	E90	.999	15864	8.1	33D	-F		P	0948			H	
GRP72641	01	0955+5	1015+2 1025	1110	S23	E58	.846	15856	5.8	75	3N						FJSU	
KHAR	01	0955	1015	1135	S24	E58	.847	15856	5.8	100	3N		P	1015			FSU	
KANZ	01	1000	1016	1016D	S22	E59	.854	15856	5.8	16D	2B	2						
MONT	01	1012E	1017	1110D	S21	E59	.853	15856	5.9	58D	3B		C	1017	1500			
ABST	01	1017E	1025	1105	S24	E58	.847	15856	5.8	48D	3N		P	1025	873	17.2	FJ	
642 KHAR	01	1034E		1040D	S22	E90	.999	15864	8.2	6D	-N		V	1035			H	Y5
GRP72643	01	1112>9	1140+0	1208	S25	E33	.590	15850	3.9	56	-N				110	1.4	E	
KHAR	01	1112E	1140	1200D	S26	E35	.619	15850	4.1	48D	-N	*	P	1142	130	1.8	E	
RAMY	01	1132	1140	1210	S25	E33	.590	15850	4.0	38	-B	*	C		86		F	
LVOV	01	1143E	1143	1205	S24	E33	.585	15850	4.0	22D	-F	*	C	1143	100	1.3	BCE	
644 KHAR	01	1118E		1145D	S31	W57	.849	15851	25.2	27D	-F		P	1118	100	2.1	D	Y5
645 RAMY	01	1126	1126	1135	S22	E57	.836	15856	5.8	9	-N	2	C		17			Y5
646 RAMY	01	1308	1308	1327	S34	W27	.596	15857	27.5	19	-N	4	C		27			Y5
	01	1411	1428	NO FLARE PATROL														
647 RAMY	01	1457	1516	1544	S22	E57	.836	15856	5.9	47	-B	3	C		127			Y5
648 HOLL	01	1550E	1550U	1627	S22	E57	.836	15856	5.9	37D	-N	3	C		37		F	Y5
649 RAMY	01	1649	1651	1735	S22	E56	.828	15856	5.9	46	-B	3	C		20			Y5
650 HOLL	01	1713	1713	1723	S34	W29	.614	15857	27.5	10	-N	2	C		18			Y5
651 RAMY	01	1823	1824	1830	N22	W12	.522	15843	28.9	7	-F	3	C		22			Y5
GRP72652	01	2013E	2018+0	2042	S16	E90	.999	15864	8.6	29	1N							
PALE	01	2013E	2018U	2021D	S18	E90	.999	15864	8.6	8D	1N	3	V					
RAMY	01	2015E	2018	2042	S15	E90	.999	15864	8.6	27D	1B	3	C					
653 CULG	01	2103E	2103E	2125D	S25	E59	.856	15856	6.3	22D	-F		P	2103	50	.8		Y5
654 CULG	01	2157E	2157U	0158	S22	W65	.900	15838	25.0	241D	-N		P	2157	70	1.6	S	Y5
655 CULG	01	2203	2211	2233	S18	W06	.212	15849	1.5	30	-F		C	2211	60	.6		Y5
656 PALE	01	2219E	2219	2223D	S21	E55	.817	15856	6.1	4D	-N	3	C		20			Y5
GRP72657	01	2344+2	2346+1	2354	N09	E44	.728	15855	5.3	10	-F				70	1.0	E	
CULG	01	2344	2346	2354	N08	E44	.725	15855	5.3	10	-F		C	2346	70	1.0		
VORO	01	2346	2347	2353	N10	E44	.732	15855	5.3	7	-N		C	2347	81	1.2	E	
658 CULG	01	2350	2353	2357	S27	E21	.471	15850	3.6	7	-F		C	2353	30	.3		Y5
GRP72659	02	0004+4	0008+2	0029	S20	W38	.629	15852	27.2	25	-F				50	.7	D	
CULG	02	0004	0008	0037	S20	W39	.641	15852	27.1	33	-F		C	0008	40	.5		
VORO	02	0008	0010	0021	S21	W38	.632	15852	27.2	13	-F		C	0010	63	.8	D	
660 CULG	02	0115	0119	0135	N14	E79	.988	15863	8.0	20	-F		C	0119	30			Y5
661 CULG	02	0237	0238	0256	N08	E44	.725	15855	5.4	19	-F		C	0238	40	.6		Y5

Hα SOLAR FLARES

MARCH 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR. AREA Sq. Deg.		
662 CULG	02	0238	0245	0306	S32	W38	.684	15857	27.3	28	-F		C	0245	60	.8		Y5
663 VORO	02	0247	0251	0255	S18	E90	.999	15864	8.9	8	-N		C	0251	45		D	Y5
GRP72664	02	0317+3	0321+4	0401	S23	E51	.782	15856	6.0	44	1F				220	3.6	EK	
CULG	02	0317	0323	0405	S25	E50	.776	15856	5.9	48	1N		C	0323	170	2.7		
VORO	02	0320	0321	0401	S23	E51	.782	15856	6.0	41	1F		C	0321	305	4.9	EK	
PEKG	02	0320	0325	0331D	S23	E51	.782	15856	6.0	11D	1F		P	0325	168	138.0	E	
MITK	02	0327E		0350	S22	E53	.799	15856	6.1	23D	1N		C	0327	230	4.0	E	
665 VORO	02	0333	0338	0353	S18	E90	.999	15864	8.9	20	-N		C	0338	45		DH	Y5
GRP72666	02	0338+4	0345+4	0415	S19	W06	.227	15849	1.7	37	-N				180	1.9	EL	
CULG	02	0338	0345	0410D	S19	W08	.244	15849	1.6	32D	-N		P	0345	140	1.5	L	
VORO	02	0342	0349	0415	S19	W05	.220	15849	1.8	33	1F		C	0349	215	2.2	E	
GRP72667	02	0639+2	0645+2	0701	S23	E27	.505	15850	4.3	22	-N				170	2.0	EJ	
MITK	02	0639	0647	0720	S23	E29	.530	15850	4.5	41	1N		C	0647	170	2.1	E	
ABST	02	0639	0647	0706D	S24	E28	.525	15850	4.4	27D	1B		P	0647	297	3.6	EJ	
PEKG	02	0640	0645	0654	S23	E27	.505	15850	4.3	14	-F		C	0645	168	98.0	E	
MANI	02	0641	0647	0655	S25	E19	.429	15850	3.7	14	-N	3	C		50		F	
668 ABST	02	0646	0648	0650	N24	W19	.592	15843	28.9	4	-N		C	0648	114	1.5	E	Y5
669 HTPR	02	0651E		0700	S22	E46	.728	15856	5.7	9D	-N		C	0653	120	1.7	E	Y5
GRP72670	02	0930+0	0931	0940	S17	W45	.707	15852	27.0	10	-N						AD	
TELV	02	0930	0931	0940	S19	W45	.710	15852	27.0	10	-N	3					A	
KHAR	02	0930E		0938D	S16	W45	.705	15852	27.0	8D	-N		P	0932	110	1.6	D	
671 KHAR	02	0938E		0954D	S20	E88	.997	15864	9.0	16D	-N		P	0943	80		D	Y5
GRP72672	02	1012+1	1013	1022	S23	E49	.761	15856	6.1	10	-F				80	1.3	D	
KHAR	02	1012E		1022D	S24	E50	.774	15856	6.2	10D	-F		P	1017	110	1.6	D	
ZURI	02	1013	1013	1021	S23	E49	.761	15856	6.1	8	-N		C	1013	60	1.0		
673 KHAR	02	1027E		1037D	S24	E53	.803	15856	6.4	10D	-F		P	1033	70	1.1	D	Y5
GRP72674	02	1040+8	1050+3	1110	S20	E46	.723	15856	5.9	30	-N						E	
KANZ	02	1040	1050	1109	S20	E44	.701	15856	5.7	29	-B	2						
KHAR	02	1045E		1112D	S22	E46	.728	15856	5.9	27D	1F		P	1056	280	4.2	E	
HTPR	02	1048	1053	1110	S20	E47	.734	15856	6.0	22	-F		C	1053	90	1.4	E	
675 KHAR	02	1050E	1100	1117D	S16	E90	.999	15864	9.2	27D	-N		P	1056	60		D	Y5
GRP72676	02	1103+6	1109+2	1117	S18	W45	.708	15852	27.1	14	-N				40	.6	DU	
TELV	02	1103	1109	1121	S19	W46	.721	15852	27.0	18	-N	3					U	
KANZ	02	1104	1109	1114	S18	W45	.708	15852	27.1	10	-N	1						
HTPR	02	1109	1111	1115	S18	W43	.685	15852	27.2	6	-N		C	1111	30	.4		
KHAR	02	1109E	1110	1119	S16	W45	.705	15852	27.1	10D	-N		V	1110			D	
ZURI	02	1109E	1109	1117	S18	W46	.720	15852	27.0	8D	-N		P	1109	50	.8		
GRP72677	02	1122	1123	1128	S15	E88	.998	15864	9.1	6	-F						AD	
HTPR	02	1122	1123	1126	S14	E90	1.000	15864	9.2	4	-F		C	1123	20		A	
KHAR	02	1123E		1129D	S17	E87	.996	15864	9.0	6D	-N		P	1123			D	
GRP72678	02	1125+7		1135	S22	E46	.728	15856	5.9	10	-F						E	
KHAR	02	1125		1138D	S23	E47	.741	15856	6.0	13D	-F		P	1128	120	1.8	E	
KANZ	02	1132		1132	S21	E46	.725	15856	5.9		-F	2						
GRP72679	02	1218+2	1220+4	1230	N19	E90	1.001	15863	9.3	12	1N				90		AE	
HTPR	02	1218	1224	1230	N19	E90	1.001	15863	9.3	12	-N		C	1224	120		A	
KANZ	02	1218	1223	1236	N18	E90	1.001	15863	9.3	18	-N	2						
ZURI	02	1219	1223	1229	N20	E90	1.001	15863	9.3	10	-F		C	1223	100		E	
CATA	02	1220	1220	1230D	N20	E90	1.001	15863	9.3	10D	1N	2	P	1220	56		A	
GRP72680	02	1225+8	1225 1237+3	1257	S21	E45	.714	15856	5.9	32	1N				170	2.5		
RAMY	02	1225	1238	1310	S22	E46	.728	15856	6.0	45	-B	4	C		143		F	
RAMY	02	1225	1225	1310	S22	E46	.728	15856	6.0	45	-N	4	C		19		F	
KANZ	02	1227	1240	1256	S21	E45	.714	15856	5.9	29	-N	2						
HTPR	02	1233	1239	1253	S19	E46	.721	15856	6.0	20	1F		C	1239	160	2.2	E	
ZURI	02	1233	1237	1257	S21	E43	.691	15856	5.7	24	1F		C	1237	200	2.9		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP72681	02	1234>9	1245+1	1310	S23	E23	.456	15850	4.2	36	-F				20	.2	F	
HTPR	02	1234	1246	1310	S22	E24	.461	15850	4.3	36	-F		C	1246	20	.2	E	
KANZ	02	1236	1245	1311	S23	E23	.456	15850	4.3	35	-F	2					F	
RAMY	02	1245	1245	1303	S24	E19	.419	15850	4.0	18	-N	4	C		19		F	
682 RAMY	02	1332	1335	1340	S19	W44	.69E	15852	27.3	8	-B	4	C		22			Y5
GRP72683	02	1335+1	1338+3	1404	S23	E19	.409	15850	4.0	29	-N				100	1.1		
RAMY	02	1335	1338	1404	S24	E19	.419	15850	4.0	29	-B	4	C		78			
KANZ	02	1336	1340	1402	S23	E18	.397	15850	3.9	26	-B	2					F	
HTPR	02	1336	1340	1405	S22	E21	.424	15850	4.1	29	-N		C	1340	100	1.0	E	
ZURI	02	1337E	1341	1351D	S24	E19	.419	15850	4.0	14D	1F		P	1341	240	2.8		
684 HTPR	02	1523	1526	1529	N13	E85	.998	15863	9.0	6	-F		C	1526	30		A	Y5
GRP72685	02	1605+3	1607+1	1623	S19	W48	.744	15852	27.1	18	-N				70	1.1	E	
BIGB	02	1605	1607	1623	S19	W47	.733	15852	27.1	18	-N		C	1607	50	.7		
HTPR	02	1607	1608	1617	S18	W48	.742	15852	27.1	10	-F		C	1608	60	1.2	E	
RAMY	02	1608	1608	1633	S19	W48	.744	15852	27.1	25	-B	3	C		89			
686 PALE	02	2019	2019	2025	S19	E78	.972	15864	8.7	6	-F	3	C		11		DE	Y5
687 CULG	02	2052	2203U	2230	S23	W52	.791	15852	27.0	98	?F		P	2203	150	2.3	L	Y5
	IMP.1 NO : BIGB HUAN																	
GRP72688	02	2126+2	2128+3	2137	S17	E81	.983	15864	9.0	11	-N				60			
CULG	02	2126	2128	2207	S20	E85	.992	15864	9.3	41	1N		P	2128	80			
PALE	02	2128	2128	2134	S16	E75	.960	15864	8.5	6	-N	3	C		60		F	
RAMY	02	2129E	2131	2140D	S17	E78	.972	15864	8.7	11D	-B	3	C					
HUAN	02	2130E		2134	S18	E85	.993	15864	9.3	4D	-F	1	P	2131	15		D	
689 CULG	02	2229	2231	2237	S20	E88	.997	15864	9.5	8	-F		C	2231	20			Y5
GRP72690	02	2240>9	2242 2300	2306	S20	E40	.653	15856	5.9	26	-N						DK	
CULG	02	2240	2242	2306	S20	E40	.653	15856	5.9	26	-N		C	2242	50	.7	K	
VORO	02	2256	2300	2305	S20	E40	.653	15856	6.0	9	-N		C	2300	27	.3	D	
691 CULG	02	2254	2257	2317	S19	W60	.860		26.5	23	-F		C	2257	70	1.3		Y5
GRP72692	02	2346+2	2348+1	2351	S18	E85	.993	15864	9.4	5	-F				30		D	
CULG	02	2346	2348	2351	S19	E88	.997	15864	9.6	5	-F		C	2348	20			
VORO	02	2348	2349	2351	S18	E82	.985	15864	9.1	3	-N		C	2349	36		D	
693 CULG	03	0031	0035	0051	S26	E16	.409	15850	4.2	20	-F		C	0035	60	.7		Y5
694 CULG	03	0107	0112	0137	N20	E79	.991	15863	9.0	30	?F		C	0112	70			Y5
	IMP.1 NO : MITK VORO																	
695 CULG	03	0128	0131	0134	S19	E88	.997	15864	9.7	6	-F		C	0131	20			Y5
696 CULG	03	0154	0157	0200	S20	E80	.979	15864	9.1	6	-F		P	0157	30			Y5
697 CULG	03	0155	0208	0218	S21	E38	.632	15856	5.9	23	-F		P	0208	10	.1		Y5
GRP72698	03	0233+1	0234+5	0304	S18	E80	.979	15864	9.1	31	1N				70		E	
CULG	03	0233	0237	0309	S20	E80	.979	15864	9.1	36	1N		C	0237	70			
VORO	03	0234	0239	0259	S18	E81	.982	15864	9.2	25	1F		C	0239	108		E	
PALE	03	0234E	0234U	0237D	S16	E73	.950	15864	8.6	3D	-N	3	C		38			
GRP72699	03	0236+1	0237+1	0242	S20	E38	.629	15856	6.0	6	-N				45	.6	D	
CULG	03	0236	0237	0240	S21	E38	.632	15856	6.0	4	-N		P	0237	30	.4		
VORO	03	0237	0238	0243	S20	E38	.629	15856	6.0	6	-N		C	0238	63	.8	D	
GRP72700	03	0321+4	0325+4	0338	S24	E14	.366	15850	4.2	17	-N				140	1.5	EJ	
VORO	03	0321	0325	0340	S24	E15	.376	15850	4.3	19	-B		C	0325	170	1.8	EJ	
CULG	03	0322	0329	0345D	S25	E15	.388	15850	4.3	23D	-N		P	0329	130	1.4		
PEKG	03	0325	0327	0332	S23	E14	.354	15850	4.2	7	-F		P	0327	105	56.0	E	
PALE	03	0336E	0336U	0336D	S24	E12	.347	15850	4.1		-N	3	C		36		DE	
	03	0444	0447	NO FLARE PATROL														
701 PEKG	03	0454	0457	0500	N18	W16	.497	15847	2.0	6	-F		C	0457	34	19.0	D	Y5
	03	0545	0557	NO FLARE PATROL														

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
GRP72702	03	0557+1	0558+1	0603	N19	E82	.996	15863	9.4	6	-N						AD
PEKG	03	0557	0558	0602	N20	E75	.980	15863	8.9	5	-F		C	0558	42		D
ABST	03	0558	0559	0604	N19	E90	1.001	15863	10.0	6	1N		C	0559	131		AD
	03	0637	0723	NO FLARE PATROL													
703 KANZ	03	0823	0826	0843	S19	W57	.834	15852	27.1	20	-F	1					Y5
704 ABST	03	0827	0828	0845	S26	W90	.998	15838	24.6	18	?N		C	0828	87		AD Y5
	IMP.1 NO I HTPR																
GRP72705	03	0948+3	0952+1 0959	1002	S19	E77	.968	15864	9.2	14	-N				70		DJ
KANZ	03	0948	0952	1003	S19	E76	.963	15864	9.1	15	-B	2					
HTPR	03	0950	0952	1001	S19	E78	.972	15864	9.3	11	-N		C	0952	70		
ZURI	03	0951	0953	0959	S19	E77	.968	15864	9.2	8	-N		C	0953	70		
ABST	03	0951	0959	1010	S16	E79	.976	15864	9.3	19	-N		C	0959	87		DJ
GRP72706	03	0948>9	1010+3	1027	S18	W57	.833	15852	27.1	39	-F						EJ
KANZ	03	0948	1010	1028	S19	W57	.834	15852	27.1	40	-F	*					
HTPR	03	0957	1011	1027	S18	W60	.860	15852	26.9	30	-F	*	C	1011	20	.4	E
ABST	03	1002	1013	1016	S16	W57	.832	15852	27.1	14	-F	*	C	1013	87	1.6	EJ
GRP72707	03	1101+1	1104+3 1115+0	1133	S18	E73	.949	15864	8.9	32	1N				130		EK
HTPR	03	1101	1107	1132	S18	E78	.972	15864	9.3	31	1B		C	1107	120		EK
WEND	03	1101E		1128	S18	E73	.949	15864	8.9	27D	2N		V		300		C
KANZ	03	1102	1115	1133	S19	E76	.963	15864	9.2	31	-N	2					
ATHN	03	1102	1104	1115	S28	E65	.903	15864	8.3	13	-F		C	1104	49	1.1	
RAMY	03	1115E	1115U	1140	S17	E70	.932	15864	8.7	25D	-N	3	C		133		
CATA	03	1120E	1120	1145D	S18	E72	.944	15864	8.9	25D	1B	2	P	1120	140		
GRP72708	03	1204+2	1205+1	1207	S21	E33	.570	15856	6.0	3	-N				25	.3	
HTPR	03	1204	1205	1206	S20	E33	.565	15856	6.0	2	-F		C	1205	20	.2	
RAMY	03	1206	1206	1208	S22	E33	.574	15856	6.0	2	-B	3	C		25		
GRP72709	03	1226+1	1227+0	1233	S19	W57	.834	15852	27.2	7	-F						
RAMY	03	1226	1227	1235	S19	W57	.834	15852	27.2	9	-N	3	C		22		
KANZ	03	1227	1227	1231	S19	W58	.843	15852	27.2	4	-F	1					
GRP72710	03	1335+3	1339+0	1351	S18	W59	.851	15852	27.1	16	-F						
KANZ	03	1335	1339	1349	S19	W58	.843	15852	27.2	14	-F	1					
RAMY	03	1338	1339	1353	S18	W60	.860	15852	27.1	15	-N	3	C		17		
GRP72711	03	1409+0	1417+1	1430	S16	E70	.933	15864	8.8	21	-N						
KANZ	03	1409	1417	1429	S16	E71	.939	15864	8.9	20	-F	2					
RAMY	03	1409	1418	1430	S17	E69	.926	15864	8.8	21	-B	3	C		28		
GRP72712	03	1508+3	1510+1	1513	S18	W21	.392	15849	2.1	5	-N				15	.2	
HTPR	03	1508	1510	1512	S17	W20	.372	15849	2.1	4	-F		C	1510	10	.1	
RAMY	03	1511	1511	1514	S20	W23	.433	15849	1.9	3	-B	3	C		23		
713 RAMY	03	1529	1529	1533	S20	W23	.433	15849	1.9	4	-N	3	C		19		Y5
714 RAMY	03	1702E	1702U	1711	S20	W24	.447	15849	1.9	9D	-N	3	C		22		Y5
GRP72715	03	1707+9	1718+2	1725D	S16	E68	.920	15864	8.8	18	-N						F
HOLL	03	1707	1718	1808	S16	E69	.926	15864	8.9	61	-B	3	C		97		F
RAMY	03	1716	1720	1725	S16	E67	.913	15864	8.7	9	-N	3	C		25		
GRP72716	03	1801+1	1803+2	1824	S20	W24	.447	15849	2.0	23	-B				70	.8	
HOLL	03	1801	1805	1824	S20	W23	.433	15849	2.0	23	-B	3	C		65		
RAMY	03	1801	1805	1824	S20	W24	.447	15849	2.0	23	-B	3	C		86		
PALE	03	1802	1803	1816	S20	W25	.460	15849	1.9	14	-N	3	C		40		DE
GRP72717	03	1806+9	1819+4	1849	S24	E04	.296	15850	4.1	43	1B				310	3.2	FHU
HOLL	03	1806	1820	1852	S24	E04	.296	15850	4.1	46	1B	3	C		353		U F
RAMY	03	1815	1819	1850	S24	E05	.300	15850	4.1	35	1B	3	C		323		F
PALE	03	1815	1823	1848	S25	E04	.312	15850	4.1	33	1B	3	C		309		H F
HUAN	03	1820E		1830	S24	E05	.300	15850	4.1	10D	-N	1	P	1822	45	.5	E
718 HOLL	03	1813	1824	1828	S20	W62	.877	15852	27.1	15	-N	3	C		15		Y5
GRP72719	03	2014+5	2019+3	2040	N16	E57	.875	15863	8.1	26	-N				70	1.4	
BIGB	03	2014	2022	2045	N20	E60	.906	15863	8.3	31	-N		C	2022	80	1.6	
RAMY	03	2015	2020	2035	N16	E55	.859	15863	8.0	20	-B	3	C		69		F
PALE	03	2019	2019	2040D	N16	E57	.875	15863	8.1	21D	-N	3	C		30		DE

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
720 CULG	04	0152	0207	0235D	S18	W64	.892	15852	27.3	43D	-N		P	0207	70	1.6		Y5
	04	0448	0457	NO FLARE PATROL														
	04	0516	0525	NO FLARE PATROL														
	04	0528	0546	NO FLARE PATROL														
721 ABST	04	0647	0651	0705	N37	W07	.704	15860	3.8	18	-F		C	0651	87	1.2	DJ	Y5
722 ABST	04	0650	0651	0654	N13	E16	.434	15855	5.5	4	-N		C	0651	87	.9	D	Y5
GRP72723	04	1206E		1222	N12	E54	.839	15863	8.6	16	-F							
HTPR	04	1206E		1215	N13	E54	.842	15863	8.6	9D	-F		C	1213	10	.2		
WEND	04	1216E		1228D	N12	E55	.848	15863	8.6	12D	-F		V					
GRP72724	04	1458+2	1540+1 1624	1639	S19	W37	.613	15849	1.8	101	-N				70	.9	FK	
KANZ	04	1458	1504	1504D	S19	W36	.600	15849	1.9	6D	-F	1						
HTPR	04	1500	1540	1553D	S19	W40	.650	15849	1.6	53D	-F		C	1540	50	.6	EFKT	
RAMY	04	1535E	1541	1636	S19	W35	.587	15849	2.0	61D	-B	3	C		89		F	
HOLL	04	1601E	1624	1641	S20	W38	.629	15849	1.8	40D	-B	3	C		71		F	
725 HOLL	04	1638	1641	1651	N12	E52	.821	15863	8.6	13	-N	3	C		21			Y5
GRP72726	04	1643>9	1716+1	1730	S20	W37	.616	15849	1.9	47	-N						F	
HOLL	04	1643	1716	1740	S20	W39	.641	15849	1.8	57	-B	3	C		88		F	
RAMY	04	1714	1717	1720	S20	W36	.604	15849	2.0	6	-N	3	C		23			
727 HOLL	04	1928	1931	1944	S20	W40	.653	15849	1.8	16	-B	3	C		27			Y5
728 HOLL	04	1937	1939	1944	S20	W78	.972	15852	27.0	7	-N	3	C		16			Y5
729 HOLL	04	2030	2031	2037	S20	W40	.653	15849	1.9	7	-N	3	C		32			Y5
730 HOLL	04	2035	2044	2053	N35	W14	.698	15860	3.8	18	-N	3	C		36			Y5
731 CULG	04	2104E	2104E	2114	S21	W40	.656	15849	1.9	10D	-F		P	2104	50	.7		Y5
GRP72732	04	2153	2153	2207	S18	W43	.685	15849	1.7	14	-B							
HOLL	04	2153	2153	2203	S20	W41	.665	15849	1.8	10	-B	3	C		31			
CULG	04	2201E	2209U	2211D	S17	W45	.707	15849	1.5	10D	-F		P	2209	60	.8		
GRP72733	04	2207+1	2211+0	2251	N17	E49	.811	15863	8.6	44	-N						F	
CULG	04	2207U	2211U	2211D	N13	E46	.766	15863	8.4	4D	-N		P	2211	30	.5		
HOLL	04	2208	2211	2251	N21	E52	.851	15863	8.8	43	-B	3	C		86		F	
734 HOLL	04	2216	2220	2230	S20	W41	.665	15849	1.9	14	-B	3	C		18			Y5
GRP72735	04	2234	2250+1	2314	S19	W41	.663	15849	1.9	40	-N						F	
HOLL	04	2234	2250	2327	S20	W42	.677	15849	1.8	53	-B	3	C		156		F	
CULG	04	2241E	2251U	2301	S18	W41	.660	15849	1.9	20D	-F		P	2251	60	.8		
GRP72736	04	2256+0	2256+0	2315	S18	W80	.979	15852	27.0	19	-N				30			
HOLL	04	2256	2256	2304	S20	W80	.979	15852	27.0	8	-N	3	C		30			
CULG	04	2256	2256	2326	S16	W80	.980	15852	27.0	30	-N		P	2256	30			
737 CULG	05	0041	0043	0049	S20	W43	.689	15849	1.8	8	-F		C	0043	80	1.1		Y5
738 CULG	05	0049	0052	0102	S21	W80	.979	15852	27.0	13	-N		C	0052	20			Y5
739 CULG	05	0129	0135	0146	S21	W40	.656	15849	2.1	17	-F		C	0135	40	.5		Y5
GRP72740	05	0223+1	0226+3	0242	S08	E17	.290		6.4	19	-F				35	.4	DG	
CULG	05	0223	0229	0247	S09	E17	.291		6.4	24	-N		C	0229	20	.2	G	
VORO	05	0224	0226	0237	S08	E17	.290		6.4	13	-F		C	0226	54	.5	DG	
741 CULG	05	0255E	0255U	0319	N09	E02	.282	15855	5.3	24D	-N		P	0255	30	.3	C	Y5
742 CULG	05	0331	0335	0342	S13	E43	.678	15864	8.4	11	-N		C	0335	60	.8		Y5
743 ABST	05	0632	0633	0650D	N36	W22	.742	15860	3.6	18D	?F		P	0633	131	2.1	EJ	Y5
	IMP.1 NO : MITK																	
744 CULG	05	0648	0704	0723	S29	W73	.949	15857	27.8	35	-N		C	0704	30			Y5
745 CULG	05	0725	0742	0759D	S30	W77	.967	15857	27.5	34D	-N		P	0742	50		F	Y5
746 ABST	05	0925	0928	0936	N36	W23	.747	15860	3.7	11	?F		C	0928	131	2.1	EJ	Y5
	IMP.1 NO : MONT																	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
747 MONT	05	1109	1117	1117D	N15	E41	.723	15863	8.5	8D	-N		C	1117	110		E	Y5
	05	1220	1222	NO FLARE PATROL														
748 RAMY	05	1231	1231	1237	N35	W23	.737	15860	3.8	6	-N	3	C		19			Y5
749 RAMY	05	1237	1239	1249	S18	E47	.731	15864	9.1	12	-B	3	C		46			Y5
GRP72750	05	1238+3	1241	1250	S20	W48	.745	15849	1.9	12	-F						E	
HTPR	05	1238		1250D	S20	W49	.756	15849	1.9	12D	-F		C	1243	60	.9	E	
RAMY	05	1241	1241	1250	S20	W47	.734	15849	2.0	9	-N	3	C		20			
	05	1350	1403	NO FLARE PATROL														
GRP72751	05	1405+0	1415+3	1558	N13	E38	.680	15863	8.4	113	1B				240	3.2	FI	
RAMY	05	1405	1415	1517D	N11	E38	.669	15863	8.4	72D	1B	3	C		200		F	
HTPR	05	1405E		1419D	N14	E37	.675	15863	8.4	14D	2N		C	1417	900	11.7	EFI	
HOLL	05	1415	1418	1558	N13	E39	.691	15863	8.5	103	1B	3	C		236		F	
752 HOLL	05	1408	1415	1513	N21	E44	.784	15863	8.9	65	-B	3	C		85		F	Y5
GRP72753	05	1409+0	1413+3	1454D	N12	E25	.522	15863	7.5	45	1B				270	3.2	FU	
HOLL	05	1409	1416	1644	N12	E25	.522	15863	7.5	155	1B	3	C		290		U F	
RAMY	05	1409	1413	1454	N12	E26	.533	15863	7.5	45	1B	3	C		250		U F	
754 HOLL	05	1451	1456	1502	N35	W24	.742	15860	3.8	11	-N	3	C		31			Y5
GRP72755	05	1517	1534	1609	S19	W52	.786	15849	1.7	52	2B						FU	
HOLL	05	1517	1534	1611	S20	W51	.777	15849	1.8	54	2B	3	C		396		U F	
BIGB	05	1542E		1607	S19	W54	.806	15849	1.6	25D	1N		P	1542	190	3.3		
756 HOLL	05	1637	1659	1731D	N35	W25	.748	15860	3.8	54D	-B	3	C		101		U	Y5
757 RAMY	05	1732	1742	1747	N35	W25	.748	15860	3.9	15	-N	3	C		111			Y5
758 RAMY	05	1802	1807	1816	N35	W25	.748	15860	3.9	14	-N	3	C		52			Y5
GRP72759	05	1842+7	1851+8	1858	N35	W26	.753	15860	3.8	16	-B				40	.6		
RAMY	05	1842	1851	1859	N35	W26	.753	15860	3.8	17	-B	3	C		48			
HOLL	05	1849	1851	1856	N35	W26	.753	15860	3.8	7	-B	3	C		32			
GRP72760	05	1930+2	1936+0	1944	N35	W27	.759	15860	3.8	14	-N				40	.6		
RAMY	05	1930	1936	1944	N35	W26	.753	15860	3.9	14	-B	3	C		52			
BIGB	05	1932	1936	1942	N36	W27	.768	15860	3.8	10	-N		C	1936	40	.5		
PALE	05	1938E	1938	1946	N34	W27	.749	15860	3.8	8D	-N	3	C		42			
761 CULG	05	2101	2106	2134	S28	W85	.991	15857	27.5	33	-F		C	2106	40			Y5
762 PALE	05	2118E	2118	2122	S19	W52	.786	15849	2.0	4D	-N	3	C		20		DE	Y5
763 CULG	05	2141	2148	2205	S19	W54	.806	15849	1.9	24	?F		C	2148	140	2.4		Y5
	IMP.1 NO 1 BIGB																	
	05	2205	2213	NO FLARE PATROL														
764 HOLL	05	2335	2352	0004	S19	E54	.806	15864	10.0	29	-B	3	C		20			Y5
GRP72765	05	2358>9	0021+1	0024	S18	W53	.795	15849	2.0	26	-B				40	.7	FJ	
VORO	06	0018	0021	0024	S18	W53	.795	15849	2.0	6	-N		C	0021	54	.8	DJ	
MANI	06	0020E	0022	0023D	S16	W54	.804	15849	2.0	3D	-B	2	C		30		F	
HOLL	05	2358	2422	0024D	S19	W53	.796	15849	2.0	26D	-B	3	V		30		F	
GRP72766	06	0115+8	0120 0127	0136	S18	W55	.815	15849	1.9	21	-F						EJ	
PEKG	06	0115E	0120	0132	S19	W53	.796	15849	2.1	17D	-F		P	0120	126	106.0	E	
VORO	06	0123	0127	0139	S18	W58	.842	15849	1.7	16	1F		C	0127	143	2.4	EJ	
767 VORO	06	0143	0148	0154	S18	W54	.805	15849	2.0	11	-N		C	0148	99	1.7	EJ	Y5
GRP72768	06	0343+9	0351+6	0417	S17	W56	.823	15849	2.0	34	1F						EJ	
CULG	06	0343	0351	0415	S17	W56	.823	15849	2.0	32	1N		C	0351	180	3.3		
VORO	06	0352		0359D	S18	W56	.824	15849	2.0	7D	1F		P	0359	134	2.3	EJ	
PEKG	06	0356E	0357	0418D	S17	W55	.814	15849	2.0	22D	-F		P	0357	84	75.0	E	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP72769	06	0630+7	0634+5 0700	0717	S19	E35	.587	15864	8.9	47	-N						EJ	
MANI	06	0630	0634	0648	S19	E36	.600	15864	9.0	18	-N	2	C		30			
ABST	06	0637	0639	0705	S20	E35	.591	15864	8.9	28	-N		C	0639	131	1.6	EJ	
MANI	06	0656	0700	0729	S19	E35	.587	15864	8.9	33	-N	2	C		40			
770 ABST	06	0816	0817	0819	S14	E31	.518	15864	8.7	3	-N		C	0817	87	1.0	D	Y5
GRP72771	06	0822+3	0826	0836	S23	W29	.530	15850	4.2	14	-F						E	
ABST	06	0822	0826	0835	S24	W28	.524	15850	4.2	13	-F		C	0826	131	1.5	E	
WEND	06	0825		0836	S23	W30	.542	15850	4.1	11	-N		P				E	
772 ABST	06	0852	0853	0900	N36	W36	.818	15860	3.7	8	-N		C	0853	87	1.6	D	Y5
773 MONT	06	0918	0923	0930	S19	E35	.587	15864	9.0	12	-F		C	0923	50		D	Y5
774 ABST	06	0955	0956	1000	S20	E36	.604	15864	9.1	5	-N		C	0956	87	1.1	DJ	Y5
775 ABST	06	1022	1023	1034	S17	W60	.859	15849	1.9	12	-F		P	1023	87	1.7	D	Y5
GRP72776	06	1423	1431+1	1506	S21	W10	.289	15856	5.8	43	1N						U	
RAMY	06	1423	1431	1506	S21	W08	.272	15856	6.0	43	-B	2	C		129			
WEND	06	1425E	1432	1502	S21	W11	.299	15856	5.8	37D	2F		P		700	7.8	U	
HOLL	06	1439	1506	1542	S22	W10	.303	15856	5.9	63	-N	3	C		52			
GRP72777	06	1511+0	1513+1	1516	S19	W61	.868	15849	2.1	5	-N							
HOLL	06	1511	1513	1516	S19	W61	.868	15849	2.1	5	-N	3	C		20			
RAMY	06	1511	1514	1516	S19	W62	.876	15849	2.0	5	-N	2	C		129			
778 RAMY	06	1617	1617	1626	S18	E32	.544	15864	9.1	9	-N	2	C		20			Y5
GRP72779	06	1621+0	1629 1650	1709	N11	E24	.501	15863	8.5	48	-N							
BIGB	06	1621	1650	1704	N13	E26	.542	15863	8.6	43	-N		C	1650	90	1.0		
RAMY	06	1621	1629	1713	N10	E22	.468	15863	8.3	52	-N	3	C		55			
780 RAMY	06	1627	1636	1656	N10	E11	.349	15863	7.5	29	-N	3	C		64			Y5
781 RAMY	06	1638	1638	1643	S18	E32	.544	15864	9.1	5	-N	3	C		25			Y5
GRP72782	06	1717+1	1720+4	1746	S19	W63	.884	15849	2.0	29	1B				110	2.5	F	
BIGB	06	1717	1720	1747	S18	W65	.899	15849	1.8	30	1N		C	1720	130	2.4		
RAMY	06	1718	1724	1741	S19	W63	.884	15849	2.0	23	-B	3	C		88			
HOLL	06	1718	1724	1746	S19	W63	.884	15849	2.0	28	-B	3	C		115		F	
GRP72783	06	1806+2	1807+2 1818	1820	S19	W63	.884	15849	2.0	14	-N						R	
BIGB	06	1806	1807	1825	S17	W65	.899	15849	1.9	19	1N		C	1807	100	2.4	E	
HOLL	06	1808	1808	1820	S19	W63	.884	15849	2.0	12	-B	3	C		57		F R	
RAMY	06	1808	1809	1814	S19	W63	.884	15849	2.0	6	-N	3	C		17			
RAMY	06	1816	1818	1820	S19	W63	.884	15849	2.0	4	-N	3	C		30			
784 BIGB	06	1823	1849	1854	S24	W65	.901	15849	1.9	31	?N		C	1849	130	3.2		Y5
	IMP.1 NO 1 RAMY																	
785 RAMY	06	1915	1919	1936	N10	E10	.341	15863	7.6	21	-N	3	C		41			Y5
786 BIGB	06	2013	2016	2021	S19	E61	.868	15865	11.4	8	-N		C	2016	25	.5	E	Y5
GRP72787	06	2117>9	2127+0 2143	2216	N35	W40	.835	15860	3.9	59	-N							
HOLL	06	2117	2127	2212	N35	W40	.835	15860	3.9	55	-B	3	C		139			
BIGB	06	2123	2143	2220	N35	W42	.847	15860	3.7	57	-N		C	2143	60	.8		
RAMY	06	2127	2127	2131D	N35	W40	.835	15860	3.9	4D	-N	2	C		22			
GRP72788	06	2143>9	2208+5 2223	2250	N13	E17	.444	15863	8.2	67	-N				140	1.6	FUY	
BIGB	06	2143	2153	2213	N14	E16	.447	15863	8.1	30	-N		C	2153	50	.5	E	
HOLL	06	2153	2153	2201	N11	E18	.432	15863	8.3	8	-B	3	C		27			
BIGB	06	2159	2213	2242	N13	E14	.416	15863	8.0	43	-N		C	2213	130	1.4		
HOLL	06	2201	2208	2212D	N11	E18	.432	15863	8.3	11D	-B	3	C		120		F	
BIGB	06	2214	2223	2235	N14	E22	.507	15863	8.6	21	-N		C	2223	50	.6		
CULG	06	2218E	2218U	2258U	N13	E15	.425	15863	8.1	40D	-N		P	2218	160	1.8	UYF	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP72789	06	2245>9	2315+0 2345+2	0003	S23	W37	.628	15850	4.2	78	-N				110	1.4	HJ	
BIGB	06	2245	2315	0001	S24	W38	.643	15850	4.1	76	-N		C	2315	60	.8		
CULG	06	2305	2345	0022	S23	W36	.616	15850	4.3	77	-N		C	2345	100	1.3		
VORO	06	2313	2315	2322	S23	W37	.628	15850	4.2	9	-N		C	2315	54	.7	DHJ	
VORO	06	2343	2347	0003	S24	W37	.632	15850	4.2	20	-B		C	2347	116	1.5		
790 VORO	07	0053	0054	0102	S16	W68	.920	15849	1.9	9	-B		C	0054	27		D	Y5
791 CULG	07	0151	0157	0225	N21	E18	.549	15863	8.4	34	-F		C	0157	30	.4		Y5
792 CULG	07 IMP.1	0228 NO # MITK	0302	0345D	S15	W70	.933	15849	1.9	770	F		C	0302	100			Y5
793 PEKG	07	0413	0415	0417	N19	E12	.482	15863	8.1	4	-F		C	0415	42	24.0	D	Y5
794 PEKG	07	0414	0416	0434	S18	E22	.406	15864	8.8	20	-F		C	0416	147	81.0	E	Y5
795 PEKG	07	0525	0531	0545	S21	E27	.492	15864	9.3	20	1N		C	0531	176	101.0	E	Y5
GRP72796	07	0559E	0559 0617	0647	S21	E24	.453	15864	9.0	48	1N							
CULG	07	0559E	0559E	0647	S23	E25	.481	15864	9.1	480	1N		P	0559	290	3.2		
MANI	07	0616E	0617	0630D	S20	E24	.447	15864	9.1	140	-N	3	C		20			
797 MANI	07	0620E	0622	0635D	N22	W07	.501	15870	6.7	150	-F	3	C		25			Y5
GRP72798	07	0628>9	0643+0 0649	0701	S19	E21	.399	15864	8.8	33	-N				150	1.6		
CULG	07	0628	0643U	0721	S19	E21	.399	15864	8.8	53	-F	*	C	0643	120	1.3		
PEKG	07	0640	0643D	0700	S19	E21	.399	15864	8.9	20	1B	*	C	0643	189	104.0	E	
MANI	07	0647E	0649	0701	S19	E20	.386	15864	8.8	140	-B	*	C		60		F	
799 MONT	07	0752	0753	0801	S19	E23	.427	15864	9.1	9	-F		C	0753	60		E	Y5
800 ABST	07	0758E	0800	0809D	N24	W08	.533	15870	6.7	110	-F		P	0800	87	1.0	DJ	Y5
GRP72801	07	0803+3	0806+2	0812	S17	W72	.944	15849	1.9	9	-F						D	
ABST	07	0803	0806	0809D	S17	W75	.959	15849	1.7	60	1F	*	P	0806	87		D	
PEKG	07	0806	0808	0812	S18	W70	.932	15849	2.1	6	-F	*	C	0808	34		D	
802 ABST	07	0804E	0806	0809D	N36	W49	.892	15860	3.7	50	-F		P	0806	87	1.9	D	Y5
803 ABST	07	0804E	0806	0809D	S14	E16	.294	15864	8.5	50	-F		P	0806	87	.9	D	Y5
804 MONT	07	1020	1026	1029	N13	E08	.371	15863	8.0	9	-F		C	1026	50			Y5
805 CATA	07	1025	1045	1145D	N13	W07	.365	15862	6.9	800	-N	2	P	1045	168	1.7		Y5
GRP72806	07	1035>9	1046+4 1130+7	1157	N12	E13	.394	15863	8.4	82	-N						Z	
MONT	07	1035	1050	1207	N13	E15	.425	15863	8.6	92	-N		C	1050	220			
KANZ	07	1038	1046	1054	N13	E07	.365	15863	8.0	16	-F	1						
CATA	07	1045	1130	1145D	N12	E16	.422	15863	8.6	600	-N	*	P	1130	84	.9	Z	
KANZ	07	1125	1132	1151	N14	E15	.438	15863	8.6	26	-F	*						
RAMY	07	1126	1137	1148	N10	E12	.358	15863	8.4	22	-N	*	C		31			
RAMY	07	1149	1149	1157	N10	E12	.358	15863	8.4	8	-N	*	C		49			
807 KANZ	07	1050	1054	1058	S18	W71	.938	15849	2.1	8	-N	1						Y5
GRP72808	07	1203+2	1205+4	1217	S18	W72	.944	15849	2.1	14	-N				45		D	
KANZ	07	1203	1207	1221	S18	W72	.944	15849	2.1	18	-N	1						
RAMY	07	1204	1205	1217	S19	W73	.949	15849	2.0	13	-B	3	C		36			
MONT	07	1205	1209	1216	S16	W72	.944	15849	2.1	11	-F		C	1209	50		D	
GRP72809	07	1303+0	1303+1	1310	N13	E07	.365	15863	8.1	7	-N				50	.5	E	
KANZ	07	1303	1303	1311	N13	E07	.365	15863	8.1	8	-N	2						
MCMA	07	1303	1304	1308	N13	E07	.365	15863	8.1	5	-N		C	1304	60	1.6	E	
RAMY	07	1303	1304	1310	N10	E00	.297	15863	7.5	7	-B	*	C		42			
810 MCMA	07	1313	1318	1327	S17	W74	.954	15849	2.0	14	-F		C	1318	20	.7	E	Y5
811 MCMA	07	1328	1335	1345	N35	W50	.893	15860	3.8	17	-F		C	1335	30	.7	E	Y5
GRP72812	07	1332+1	1333+4	1342	N13	E07	.365	15863	8.1	10	-F						E	
MCMA	07	1332	1337	1345	N13	E07	.365	15863	8.1	13	-N		C	1337	40	.4	E	
KANZ	07	1333	1333	1338	N13	E07	.365	15863	8.1	5	-F	1						

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
813 MCMA	07	1335	1340	1410	S24	W52	.793	15850	3.7	35	-F		C	1340	30	.5	E	Y5
GRP72814	07	1344>9	1358+1	1414	S17	E17	.330	15864	8.8	30	-F						E	
MCMA	07	1344	1359	1417	S17	E17	.330	15864	8.8	33	-N	*	C	1359	60	.6	E	
KANZ	07	1356	1358	1410	S18	E18	.351	15864	8.9	14	-F	*						
815 MCMA	07	1348	1408	1419	S17	W75	.959	15849	2.0	31	-N		C	1408	40	1.6	E	Y5
816 MCMA	07	1531	1534	1545	S17	E17	.330	15864	8.9	14	-N		C	1534	50	.5	E	Y5
GRP72817	07	1602+0	1605+2	1620	S22	W50	.770	15850	3.9	18	-N				80	1.3	E	
MCMA	07	1548	1605	1625	S22	W50	.770	15850	3.9	37	-F		C	1605	100	1.6	E	
HOLL	07	1602	1605	1620	S25	W48	.756	15850	4.1	18	-B	3	C		87			
BIGB	07	1602	1607	1620	S22	W50	.770	15850	3.9	18	-N		C	1607	50	.8		
GRP72818	07	1653+0	1655 1702+1	1737	S22	W25	.473	15856	5.8	44	-N				130	1.5	GLU	
MCMA	07	1635	1703	1810D	S20	W26	.473	15856	5.7	95D	1N		C	1703	165	2.0	L	
HOLL	07	1653	1655	1730	S22	W23	.448	15856	6.0	37	-B	3	C		55		U	
BIGB	07	1653	1702	1737	S22	W25	.473	15856	5.8	44	-N		C	1702	90	1.0	G	
819 BIGB	07	1654	1713	1718	S15	W80	.980	15849	1.7	24	-N		C	1713	30		E	Y5
820 MCMA	07	1732	1739	1753	S17	W75	.959	15849	2.1	21	-F		C	1739	20	.7	D	Y5
821 HOLL	07	1934	1936	1951	S20	W74	.954	15849	2.3	17	-B	3	C		35		F	Y5
822 CULG	07	2149	2153	2204	S19	E44	.698	15865	11.2	15	-N		C	2153	60	.8		Y5
823 HOLL	07	2224	2233	2333	S22	W85	.992	15849	1.6	69	-N	3	C		14			Y5
824 HOLL	07	2345	2348	0014	S25	W39	.659		5.1	29	-B	3	C		74			Y5
GRP72825	08	0025+3	0030+0	0038	N23	W16	.560	15870	6.8	13	-F				60	.7	D	
PEKG	08	0025	0030	0035	N23	W18	.574	15870	6.7	10	-N		P	0030	67	40.0	D	
CULG	08	0028	0030	0040	N23	W15	.554	15870	6.9	12	-F		C	0030	60	.7		
826 PEKG	08	0138E	0139	0150	S18	W85	.993	15849	1.7	12D	-F		C	0139	13		D	Y5
827 PEKG	08	0150E	0151	0155	N13	W03	.350	15863	7.9	5D	-F		C	0151	71	39.0	E	Y5
828 PEKG	08	0310	0314	0318	S17	W85	.993	15849	1.8	8	-F		C	0314	21		D	Y5
829 MANI	08	0400E	0403U	0408	N23	W19	.581	15870	6.7	8D	-N	3	C		30			Y5
830 CULG	08	0610	0611	0623	S15	W89	.999	15849	1.6	13	-F		C	0611	20			Y5
831 CULG	08	0644	0645	0720	S18	E38	.623	15865	11.1	36	-F		C	0645	30	.4		Y5
832 CULG	08	0656	0700	0706	N26	W32	.713	15861	5.9	10	-F		C	0700	30	.4		Y5
833 CULG	08	0745	0750	0756	S28	E56	.836	15869	12.5	11	-N		C	0750	20	.4		Y5
GRP72834	08	0752+3	0755+5 0807+5	0912	S22	W32	.562	15856	5.9	80	1B				180	2.2	FKS	
CULG	08	0752	0755	0757D	S31	W31	.608	15856	6.0	5D	-N		P	0755	80	1.0	S	
HTPR	08	0752	0822	0915	S19	W32	.548	15856	5.9	83	1N		C	0822	400	5.0	EK	
CATA	08	0755	0800	0800D	S27	W29	.557	15856	6.2	5D	-N	2	P	0800	84	1.1		
MANI	08	0805E	0809	0903D	S21	W33	.570	15856	5.9	58D	-B	3	C		80		F	
PEKG	08	0805E	0807	0825D	S21	W32	.557	15856	5.9	20D	1B		C	0807	210	126.0	F	
CATA	08	0810E	0810	0930	S22	W31	.549	15856	6.0	80D	2B	2	P	0810	393	5.2		
ATHN	08	0810E	0812	0850	S22	W32	.562	15856	5.9	40D	-N		C	0812	180	2.1		
ZURI	08	0820E	0834	0918	S21	W31	.544	15856	6.0	58D	1N		P	0834	240	3.0		
GRP72835	08	1015+0	1020+0	1031	N17	E90	1.001	15874	15.2	16	-N				30			
HTPR	08	1015	1020	1026	N18	E90	1.001	15874	15.2	11	-N		C	1020	20			
CATA	08	1015	1020	1035	N17	E90	1.001	15874	15.2	20	-N	2	C	1020	39			
GRP72836	08	1100+2	1102+3	1109	N12	W07	.350	15863	7.9	9	-B				100	1.1		
HTPR	08	1100	1103	1109	N13	W05	.356	15863	8.1	9	-B		C	1103	100	1.0		
ZURI	08	1102	1102	1106D	N11	W07	.334	15863	7.9	4D	-B		P	1102	140	1.6		
ATHN	08	1102	1105	1109	N12	W07	.350	15863	7.9	7	-B		C	1105	66	.6		
837 CATA	08	1120E	1120	1125	N12	W07	.350	15863	7.9	5D	-B	2	P	1120	84	.8		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
GRP72838	08	1130+5	1135 1140+4	1208	N22	W24	.609	15870	6.7	38	-N				150	1.9	E
HTPR	08	1130	1135	1210	N22	W24	.609	15870	6.7	40	-F		C	1135	60	.7	E
CATA	08	1135	1140	1205	N23	W24	.620	15870	6.7	30	1B	2	C	1140	168	2.0	
RAMY	08	1143E	1144U	1215	N22	W23	.601	15870	6.8	32D	-B	2	C		98		
ZURI	08	1146E	1146	1206D	N21	W24	.599	15870	6.7	20D	1N		P	1146	170	2.2	
GRP72839	08	1328+2	1330+1	1339	N18	E90	1.001	15874	15.3	11	-N						
HTPR	08	1328	1331	1338	N18	E90	1.001	15874	15.3	10	-F		C	1331	20	.3	
CATA	08	1330	1330	1340	N18	E90	1.001	15874	15.3	10	1N	2	C	1330	56		
GRP72840	08	1335>9	1357+0	1413	S14	E37	.601	15865	11.3	38	-N				90	1.1	E
RAMY	08	1335	1357	1418	S15	E34	.562	15865	11.1	43	-B	3	C		132		
HTPR	08	1348	1357	1408	S14	E41	.653	15865	11.7	20	-F		C	1357	60	.8	E
GRP72841	08	1442+7	1449+0	1453	S24	E52	.793	15869	12.5	11	-F				25	.4	
KANZ	08	1442	1449	1452	S24	E55	.821	15869	12.7	10	-F	2					
HTPR	08	1444	1449	1453	S17	E46	.718	15869	12.1	9	-F		C	1449	30	.4	
RAMY	08	1449	1449	1453	S24	E52	.793	15869	12.5	4	-N	3	C		19		
GRP72842	08	1452+7	1456+3	1505	S16	E02	.156	15864	8.8	13	-F						
KANZ	08	1452	1456	1504	S14	W01	.119	15864	8.5	12	-F	*					
RAMY	08	1459	1459	1506	S18	E06	.212	15864	9.1	7	-N	*	C		24		
GRP72843	08	1512+0	1518 1533+2	1549	S13	E36	.586	15865	11.3	37	-N						E
RAMY	08	1452	1535	1540D	S15	E33	.548	15865	11.1	48D	1B	3	C		215		
KANZ	08	1512	1533	1547	S13	E38	.613	15865	11.5	35	-N	1					
HTPR	08	1512	1518	1520	S12	E36	.585	15865	11.3	8	-F		C	1518	40	.5	E
HTPR	08	1529	1534	1550	S12	E36	.585	15865	11.3	21	-N		C	1534	70	.9	E
GRP72844	08	1522+2	1525+1	1550	N22	W27	.635	15870	6.6	28	-N				40	.5	E
HOLL	08	1522	1525U	1559	N20	W30	.645	15870	6.4	37	-B	3	C		35		
HTPR	08	1524	1526	1540	N23	W27	.645	15870	6.6	16	-F		C	1526	30	.3	E
RAMY	08	1524	1525	1540D	N22	W25	.618	15870	6.8	160	-B	3	C		50		
845 HOLL	08	1549	1702	1753	N28	E36	.760	15871	11.4	124	-F	3	C		24		Y5
GRP72846	08	1610+8	1618+2	1633	N17	E90	1.001	15874	15.4	23	-F				15		
HTPR	08	1610	1618	1640	N18	E90	1.001	15874	15.4	30	-F		C	1618	20		
BIGB	08	1618	1620	1626	N16	E90	1.001	15874	15.4	8	-N		C	1620	10		
847 HTPR	08	1625	1630	1640	S12	E35	.571	15865	11.3	15	-F		C	1630	30	.4	E Y5
848 BIGB	08	1709		1715D	N36	W70	.980	15860	3.5	60	-F		P	1715	10		D Y5
849 BIGB	08	1711	1713	1720	S25	E56	.831	15869	12.9	9	-N		C	1713	30	.6	Y5
850 HOLL	08	1715	1715	1755	S09	E36	.583	15865	11.4	40	-N	3	C		32		Y5
GRP72851	08	1734+6	1742+4	1756	N21	W28	.635	15870	6.6	22	-F				40	.5	
BIGB	08	1734	1746	1746D	N22	W26	.627	15870	6.8	120	-F		P	1746	50	.6	
HOLL	08	1740	1742	1756	N20	W31	.655	15870	6.4	16	-N	3	C		26		
852 HOLL	08	1838	1843	1846	N25	E37	.747	15871	11.6	8	-F	3	C		48		Y5
853 BIGB	08	1845	1911	1911D	N16	E90	1.001	15874	15.5	260	-N		P	1911	20		Y5
854 BIGB	08	2108	2118	2135	N15	E90	1.001	15874	15.6	27	-N		P	2118	20		Y5
GRP72855	08	2113>9	2131+3	2137	S14	W90	1.000	15849	2.1	24	-N				40		
BIGB	08	2113	2134	2135	S14	W90	1.000	15849	2.1	22	-N		P	2134	45		
CULG	08	2122	2134	2140	S12	W88	.998	15849	2.3	18	-N		P	2134	40		
BIGB	08	2128	2131	2137	S18	W90	.999	15849	2.1	9	-N		C	2131	30		
GRP72856	08	2146+2	2149+2	2158	N13	W02	.348	15863	8.8	12	-F						D
CULG	08	2146	2149	2202	N14	W02	.364	15863	8.8	16	-N		C	2149	60	.7	
BIGB	08	2148	2151	2153	N13	W03	.350	15863	8.7	5	-F		C	2151	20	.2	D
	08	2202	2211	NO FLARE PATROL													
857 BIGB	08	2203	2204	2221	N15	E90	1.001	15874	15.7	18	-B		C	2204	40		Y5
	08	2212	2222	NO FLARE PATROL													
858 BIGB	08	2225	2236	2252	N15	E90	1.001	15874	15.7	27	-N		C	2236	15		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	08	2228	2242	NO FLARE PATROL														
	08	2307	2310	NO FLARE PATROL														
859 BIGB	08	2329	2332	2337	S19	W90	.999	15849	2.2	8	-N		C	2332	10			Y5
860 CULG	08	2329E	2339	0023	N28	W38	.776		6.1	540	-N	*	P	2339	80	1.3	S	Y5
GRP72861	08	2338+5	2347+6 2413	0023D	N15	E89	1.000	15874	15.7	45	-F				25			
BIGB	09	0009	0013	0023	N15	E90	1.001	15874	15.8	14	-N		C	0013	10			
BIGB	08	2338	2353	0003	N15	E90	1.001	15874	15.7	25	-N		C	2353	15			
CULG	08	2343	2347U	0055	N16	E88	1.000	15874	15.6	72	-F		C	2347	30			
862 CULG	08	2343	2355	0008	N13	W04	.352	15863	8.7	25	-F		C	2355	50	.5		Y5
863 HOLL	08	2355	2355	0005	N22	W25	.618	15870	7.1	10	-N	*	C		23			Y5
864 CULG	09	0154	0201	0217	N13	W05	.356	15863	8.7	23	-N		C	0201	100	1.1		Y5
865 CULG	09	0501E	0507U	0509D	S13	E28	.472	15865	11.3	8D	-N		P	0507	60	.7		Y5
GRP72866	09	0700+2	0705+2	0722	S13	E28	.472	15865	11.4	22	-N						EKU	
ATHN	09	0700E	0705	0722	S13	E28	.472	15865	11.4	220	-N		C	0705	98	1.1		
HTPR	09	0700	0707	0820	S13	E29	.486	15865	11.5	80	-N		C	0707	40	.5	EK	
TACH	09	0702	0705	0721	S13	E28	.472	15865	11.4	19	1N		C	0705	283	3.3	U	
GRP72867	09	0730+5	0733	0740	N18	E80	.992	15874	15.3	10	-N						D	
ISTA	09	0730E		0737	N18	E80	.992	15874	15.3	7D	-N						D	
HTPR	09	0731	0733	0740	N17	E85	.999	15874	15.7	9	-N		C	0733	80			
CATA	09	0735	0740	0750	N18	E75	.979	15874	14.9	15	1N	2	C	0740	67			
868 HTPR	09	0745	0752	0759	S13	E28	.472	15865	11.4	14	-F		C	0752	50	.6	E	Y5
GRP72869	09	0821+2	0826+3	0925	N17	E83	.997	15874	15.6	64	-F							
HTPR	09	0821	0829	0925	N17	E84	.998	15874	15.6	64	-F		C	0829	30			
KANZ	09	0823	0826	0906D	N17	E82	.995	15874	15.5	43D	-N	2						
870 KAND	09	0848		0855	S19	W90	.999	15849	2.6	7	-N		C					Y5
871 KAND	09	0906	0910	0932D	S19	W90	.999	15849	2.6	26D	-N		C					Y5
GRP72872	09	0935+8	0948+1 1025+5	1053	N17	E80	.992	15874	15.4	78	1N				220		AEK	
HTPR	09	0935	0948	0950	N17	E83	.997	15874	15.6	15	-N		C	0948	140		AEK	
ZURI	09	0937	1046	1114	N16	E80	.991	15874	15.4	97	2N	*	C	1046	200			
MONT	09	0941	0949	0959	N19	E79	.990	15874	15.3	18	-N		C	0949	110			
ATHN	09	0943	1030	1135	N15	E87	1.000	15874	15.9	112	2B		C	1030	262	13.2		
KANZ	09	1002E		1010D	N17	E78	.987	15874	15.3	8D	-N	*						
MONT	09	1007	1027	1101D	N19	E79	.990	15874	15.3	54D	1N	*	C	1027	220			
CATA	09	1015E	1025	1105D	N18	E77	.985	15874	15.2	50D	1B	*	P	1025	112		A	
873 ZURI	09	1019	1021	1027	N36	W72	.985	15860	4.0	8	-F		C	1021	50			Y5
874 ZURI	09	1102	1103	1108	S34	E50	.801	15869	13.2	6	-F		C	1103	100	1.8		Y5
GRP72875	09	1441+1	1443+1	1454	N16	W16	.471	15863	8.4	13	-N							
HTPR	09	1441	1443	1455	N14	W13	.420	15863	8.6	14	-N		C	1443	80	.8		
RAMY	09	1442	1444	1452	N19	W19	.533	15863	8.2	10	-B	3	C		22			
876 RAMY	09	1456	1504	1522D	N24	E26	.646	15871	11.6	26D	-N	3	C		30			Y5
	09	1522	1625	NO FLARE PATROL														
877 RAMY	09	1657	1659	1703	N24	E26	.646	15871	11.7	6	-N	3	C		31			Y5
878 RAMY	09	1747	1747	1755	N16	E71	.961	15874	15.1	8	-F	3	C					Y5
879 RAMY	09	1805	1806	1808	N16	E69	.952	15874	14.9	3	-F	3	C					Y5
880 RAMY	09	1811	1817	1840	N24	E25	.638	15871	11.6	29	-N	3	C		41		F	Y5
881 RAMY	09	1822	1833	1840	S14	E21	.370	15865	11.3	18	-N	3	C		31			Y5
882 RAMY	09	1844	1850	1906	S23	W50	.772	15856	6.0	22	-B	3	C		57		F	Y5
883 RAMY	09	1852	1852	1858	S14	E21	.370	15865	11.4	6	-B	3	C		51		F	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.	
884 PEKG	10	0035	0041	0050	S14	E18	.324	15865	11.4	15	?F		C	0041	294	155.0	E Y5
	IMP.1 NO 1 BIGB																
885 PALE	10	0050E	0053	0110	S35	W90	.997		3.3	20D	-F	2	C		20		Y Y5
886 PEKG	10	0330	0340	0342D	N25	E19	.604	15871	11.6	120	-N		P	0340	42	27.0	D Y5
887 PEKG	10	0345	0352	0400	N25	E20	.611	15871	11.7	15	-F		C	0352	84	53.0	D Y5
GRP72888	10	0709>9	0712 0722	0726	N24	E19	.592	15871	11.7	17	-F						EJ
ABST	10	0709	0712	0725	N24	E20	.600	15871	11.8	16	-F	*	C	0712	131	1.6	EJ
PEKG	10	0719	0722	0726	N25	E19	.604	15871	11.7	7	-F	*	C	0722	76	47.0	E
889 ABST	10	0710	0713	0730	S14	E12	.235	15865	11.2	20	-F		C	0713	131	1.1	EJ Y5
GRP72890	10	0715+5	0718+4	0736	N22	W44	.789	15870	7.0	21	-N				100	1.6	
ABST	10	0715	0718	0735	N23	W44	.794	15870	7.0	20	-N		C	0718	131	2.0	F
PEKG	10	0719	0722	0736	N22	W43	.780	15870	7.1	17	-F		C	0722	76	61.0	E
CATA	10	0720	0720	0720D	N20	W44	.779	15870	7.0		-N	2	P	0720	84	1.2	
891 ABST	10	0758	0804	0820	N17	E69	.953	15874	15.5	22	?N		C	0804	87		DJ Y5
	IMP.1 NO 1 CATA																
892 ABST	10	0810	0817	0820	S21	E67	.913	15876	15.4	10	?N		C	0817	87		DJ Y5
	IMP.1 NO 1 CATA																
893 ABST	10	0901	0905	0912	S13	W26	.442	15864	8.4	11	-N		C	0905	174	2.0	EJ Y5
GRP72894	10	0905+1	0908+1	0920	S14	E11	.221	15865	11.2	15	-F				70	.7	
ABST	10	0905	0908	0920	S14	E14	.264	15865	11.4	15	-N		P	0908	87	.9	D
HTPR	10	0906	0909	0920	S14	E09	.193	15865	11.1	14	-F		C	0909	60	.6	E
895 MCMA	10	1416	1418	1425	N22	W48	.823	15870	7.0	9	-F		C	1418	25	.4	D Y5
896 HTPR	10	1459		1503D	N25	E90	1.001	15877	17.4	4D	-N		C	1502	40		A Y5
	10	1503	1556	NO FLARE PATROL													
	10	1557	1617	NO FLARE PATROL													
	10	0405	0446	NO FLARE PATROL													
GRP72897	10	1620E	1625	1710	S21	E61	.869	15876	15.3	50	-B						U
HOLL	10	1620E	1625	1710	S21	E60	.861	15876	15.2	50D	1B	3	C		202		U F
HTPR	10	1622E		1645D	S22	E62	.878	15876	15.3	23D	-N		C	1624	70	1.4	E
GRP72898	10	1640		1655	N20	E84	.999	15877	17.0	15	-N						A
HTPR	10	1640		1652	N20	E90	1.001	15877	17.4	12	-N		C	1644	50		A
HOLL	10	1650E	1650U	1657	N20	E79	.991	15877	16.6	7D	-N	3	C				
GRP72899	10	1724+5	1729+3	1739	N16	E59	.890	15874	15.1	15	-N				20	.4	
HOLL	10	1724	1729	1738	N16	E58	.882	15874	15.1	14	-B	3	C		24		
BIGB	10	1729	1732	1740	N17	E60	.899	15874	15.2	11	-N		C	1732	20	.4	
900 HOLL	10	1800	1801	1803	S14	W32	.532	15864	8.4	3	-N	3	C		22		Y5
901 HOLL	10	1804	1827	1830	S14	W32	.532	15864	8.4	26	-B	3	C		35		F Y5
902 HOLL	10	1846	1850	1902	S14	W32	.532	15864	8.4	16	-B	3	C		40		Y5
903 RAMY	10	1911	1915	1922	S17	W28	.485	15864	8.7	11	-N	2	C		25		Y5
904 CULG	10	2144	2149	2216	N17	E65	.931		15.8	32	?F		P	2149	80	2.0	Y5
	IMP.1 NO 1 HOLL																
GRP72905	10	2159+0	2207+2	2230	N19	E78	.988	15877	16.8	31	-N						K
HOLL	10	2159	2209	2230	N20	E77	.986	15877	16.7	31	-N	3	C				
CULG	10	2159	2207	2230	N18	E80	.992	15877	16.9	31	1N		C	2207	60		K
906 HOLL	10	2254	2255	2300	N20	E76	.983	15877	16.7	6	-N	3	C		17		Y5
GRP72907	10	2356+5	0011+4 2422	0057	S14	W34	.560	15864	8.4	61	-N				50	.6	FJ
HOLL	11	0001	0011	0037	S14	W35	.574	15864	8.4	36	-B	3	C		48		
MANI	11	0009E	0015U	0040	S14	W34	.560	15864	8.5	31D	-N	2	C		50		F
CULG	10	2356	2433	0220	S16	W33	.551	15864	8.5	144	1N		C	2433	310	3.7	F
VORO	10	2359	2422	0114	S15	W34	.562	15864	8.4	75	1F		C	2422	412		EJ

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
908 CULG	11	0140	0142	0206	N23	W57	.894	15870	6.8	26	-N		C	0142	70	1.6		Y5
909 CULG	11	0346	0351	0404	N19	E77	.985	15877	16.9	18	-F		C	0351	40		T	Y5
910 CULG	11	0457	0512	0550	N19	E72	.969	15877	16.6	53	-F		C	0512	30		T	Y5
GRP72911	11	0524+1	0526+5	0536	S24	E27	.512	15869	13.2	12	-B						U	
TACH	11	0524E	0526	0534	S24	E27	.512	15869	13.3	10D	1B		C	0526	177	2.0	U	
CULG	11	0525	0527	0547	S23	E28	.518	15869	13.3	22	-B		C	0527	70	.9		
MANI	11	0526E	0531	0536	S31	E26	.559	15869	13.2	10D	-B	3	C		30			
912 CULG	11	0530	0533	0541	S29	E66	.910		16.2	11	-F		C	0533	20	.5	G	Y5
GRP72913	11	0650+1	0654 0707+1	0747	N20	E71	.965	15877	16.6	57	1B				100		JKZ	
CULG	11	0650	0729	0744D	N17	E71	.962	15877	16.6	54D	1B		P	0729	130		T	
ABST	11	0651	0654	0703	N20	E71	.965	15877	16.6	12	1N		C	0654	131		F	
MANI	11	0700E	0708	0732	N19	E76	.983	15877	17.0	32D	-B	3	C		70			
ABST	11	0705	0707	0805	N20	E71	.965	15877	16.6	60	1N		C	0707	131		EJ	
CATA	11	0715E	0715	0715D	N23	E72	.972	15877	16.7		1N	2	P	0715	84			
TACH	11	0716	0722	0727	N20	E70	.961	15877	16.6	11	1N		C	0722	106		FZ	
HTPR	11	0736E		0830	N22	E72	.971	15877	16.7	54D	1N		C	0736	160		EK	
914 HTPR	11	0835	0836	0840	S17	W34	.568	15864	8.8	5	-F		C	0836	30	.4	E	Y5
915 HTPR	11	1021E		1040	S24	E18	.408	15869	12.8	19D	-N		C	1032	50	.6	E	Y5
GRP72916	11	1035+7	1040+5 1055+1	1115	S24	W76	.963	15856	5.7	40	1N				260		FKS	
TELV	11	1035	1055	1130	S26	W77	.967	15856	5.7	55	2N	2		1055	306		S	
CATA	11	1035	1045	1115	S27	W75	.958	15856	5.8	40	2N	2	C	1045	196			
HTPR	11	1036	1040	1115	S19	W78	.972	15856	5.6	39	1B		C	1040	120		EFK	
ABST	11	1042	1056	1105	S23	W75	.958	15856	5.8	23	1N		C	1056	218		F	
GRP72917	11	1056+1	1058+0	1108	N19	E57	.883	15874	15.7	12	1N				110	2.2	EJ	
ABST	11	1056	1058	1106	N18	E56	.872	15874	15.7	10	-N		C	1058	131	2.0	EJ	
HTPR	11	1057	1058	1109	N20	E58	.893	15874	15.8	12	-N		C	1058	90	1.7		
	11	1314	1319	NO FLARE PATROL														
918 HTPR	11	1319E		1323	S18	E39	.635	15876	14.5	4D	-F		C	1319	10	.1		Y5
	11	1512	1515	NO FLARE PATROL														
919 HTPR	11	1515E		1535	N10	E70	.950	15877	16.9	20D	-F		C	1520	30	.8		Y5
GRP72920	11	1554+4	1605 1640	1757	S15	W05	.160	15865	11.3	123	1N						IU	
HTPR	11	1554		1634D	S15	W05	.160	15865	11.3	40D	2N		C	1613	550	5.7	EIU	
HOLL	11	1557	1605	1751	S14	W05	.145	15865	11.3	114	1B	3	C		429		U F	
BIGB	11	1558	1640	1802	S16	W04	.167	15865	11.4	124	1N		C	1640	200	2.1		
GRP72921	11	1558+2	1600+1	1610	S18	W39	.635	15864	8.7	12	-N				30	.4		
HTPR	11	1558	1601	1608	S18	W40	.648	15864	8.7	10	-F		C	1601	20	.3	E	
HOLL	11	1600	1600	1611	S19	W39	.638	15864	8.7	11	-B	3	C		35		F	
GRP72922	11	1652>9	1705+3	1723	N15	E67	.940	15877	16.7	31	-N						E	
BIGB	11	1652	1705	1723	N15	E65	.928	15877	16.6	31	-N		C	1705	40	1.0	E	
HOLL	11	1703	1708	1723	N16	E70	.957	15877	17.0	20	-N	3	C					
923 HOLL	11	1728	1748	1749	S26	E12	.374	15869	12.6	21	-N	3	C		34			Y5
924 HOLL	11	2020	2024	2035	S19	W40	.650	15864	8.8	15	-B	3	C		72			Y5
925 HOLL	11	2034	2043	2048	N15	E43	.744	15874	15.1	14	-N	3	C		22			Y5
926 HOLL	11	2135	2148	2155	N15	E42	.734	15874	15.0	20	-B	3	C		27			Y5
927 CULG	11	2216	2220	2244	N26	W02	.549	15871	11.8	28	-F		C	2220	100	1.2		Y5
928 CULG	11	2316	2327	2352	N12	W62	.903	15863	7.3	36	-F		C	2327	60	1.4		Y5
929 PEKG	12	0030	0034	0045	N11	E61	.894	15877	16.6	15	-F		C	0034	17	19.0	D	Y5
930 CULG	12	0039	0045	0058	N14	W50	.809	15863	8.3	19	-F		C	0045	20	.4		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP72931	12	0110+7	0112 0119	0126	N10	W11	.349	15884	11.2	16	-F						E	
CULG	12	0110	0112	0125	N10	W11	.349	15884	11.2	15	-N		C	0112	30	.3	T	
PEKG	12	0117	0119	0126	N11	W12	.371	15884	11.2	9	-F		C	0119	42	23.0	E	
GRP72932	12	0314>9	0319 0331+6	0346	N11	W12	.371	15884	11.2	32	-F						E	
PEKG	12	0314	0319	0336	N11	W13	.380	15884	11.2	22	-F		C	0319	126	68.0	E	
PEKG	12	0328	0331	0336	N11	W13	.380	15884	11.2	8	-N		C	0331	21	11.0	E	
CULG	12	0331	0337	0355	N11	W12	.371	15884	11.2	24	-F		C	0337	50	.5	T	
GRP72933	12	0505	0507+2	0518	N10	W14	.377	15884	11.2	13	-N				25	.3	K	
CULG	12	0505	0507	0523	N11	W13	.380	15884	11.2	18	-N		C	0507	20	.2	TK	
HANI	12	0508E	0509	0512	N10	W15	.387	15884	11.1	4D	-N	3	C		25			
934 CULG	12	0531	0541	0603	N25	W05	.539	15871	11.9	32	-F		C	0541	90	1.1	F	Y5
935 CULG	12	0602	0614	0655	N15	E73	.969	15877	17.7	53	-N		C	0614	40			Y5
GRP72936	12	0632+1	0640+0	0651	S25	E06	.320	15869	12.7	19	-N						FJ	
CULG	12	0632	0640	0654	S25	E06	.320	15869	12.7	22	-N		C	0640	40	.4		
ABST	12	0633	0640	0647	S25	E06	.320	15869	12.7	14	-N		C	0640	131	1.4	FJ	
GRP72937	12	0730+1	0735+7	0755	S24	E06	.305	15869	12.8	25	-N				70	.7	DJ	
CULG	12	0730	0742	0752D	S25	E06	.320	15869	12.8	22D	-N		P	0742	40	.4		
ABST	12	0731	0735	0747D	S24	E06	.305	15869	12.8	16D	-N		P	0735	87	.9	DJ	
KANZ	12	0733E	0740	0740D	S24	E06	.305	15869	12.8	7D	-F	1						
CATA	12	0740	0740	0755	S24	E07	.310	15869	12.8	15	-N	2	C	0740	84	.9		
938 HTPR	12	1100	1102	1108	N19	E68	.951	15877	17.6	8	-F		C	1102	30	.7	E	Y5
939 KAND	12	1118E		1139	N23	W80	.994	15870	6.5	21D	-N		C					Y5
GRP72940	12	1147+1	1148	1214	N08	E52	.809	15877	16.4	27	-F							
KAND	12	1147		1204	N09	E55	.840	15877	16.6	17	-F		C		52	1.0		
RAMY	12	1148	1148	1223	N07	E49	.776	15877	16.2	35	-N	3	C		16			
941 HTPR	12	1251	1256	1303	S25	E03	.309	15869	12.8	12	-B		C	1256	40	.4	EG	Y5
942 HTPR	12	1330	1335	1345	S14	W90	1.000	15856	5.8	15	-F		C	1335	60		AE	Y5
943 HTPR	12	1427	1440	1452	N30	E57	.914	15881	16.9	25	-F		C	1440	50	.9		Y5
944 HOLL	12	1513	1513	1517	N20	W82	.996	15863	6.5	4	-N	3	C					Y5
945 HOLL	12	1513	1513	1517	N15	W66	.934	15870	7.7	4	-N	3	C					Y5
946 BIGB	12	1609	1619	1634	N22	W90	1.001	15870	5.9	25	-F		C	1619	10			Y5
947 RAMY	12	1619	1620	1641	N09	W20	.434	15884	11.2	22	-N	4	C		23			Y5
GRP72948	12	1636+1	1644 1727+5	1820	S13	W18	.319	15865	11.3	104	-N				100	1.1	E	
HTPR	12	1636		1711D	S13	W21	.366	15865	11.1	35D	-F		C	1708	40	.4	E	
RAMY	12	1637	1644	1710D	S16	W15	.294	15865	11.6	33D	-N	3	C		39			
MCMA	12	1705E	1732	1800D	S14	W18	.324	15865	11.4	55D	-N		C	1732	70	.8	E	
HOLL	12	1724E	1727	1820	S13	W19	.335	15865	11.3	56D	-B	4	C		125		FDE	
949 BIGB	12	1803	1807	1818	S14	E90	1.000	15886	19.5	15	-N		C	1807	30			Y5
GRP72950	12	1950+7	1957+1	2006	N20	E52	.847	15877	16.7	16	-N				20	.4	E	
BIGB	12	1950	1957	2008	N20	E52	.847	15877	16.7	18	-N		P	1957	20	.3	E	
MCMA	12	1956	1957	2000D	N20	E51	.839	15877	16.7	4D	-F		C	1957	20	.4	E	
HOLL	12	1957	1958	2004	N19	E52	.844	15877	16.7	7	-B	4	C		29			
951 HOLL	12	2158	2158	2213	N09	W23	.471	15884	11.2	15	-B	3	C		21			Y5
GRP72952	12	2211+1	2217+1 2235	2252	N18	E80	.992	15877	18.9	41	1B						F	
BIGB	12	2211	2217	2252	N19	E80	.993	15877	18.9	41	1N		C	2217	160			
HOLL	12	2212	2218	2252	N15	E73	.969	15877	18.4	40	1B	4	C				F	
CULG	12	2214U	2235U	2302	N18	E80	.992	15877	18.9	48D	1B		P	2235	130			
953 HOLL	12	2222	2224	2225	N19	E52	.844	15877	16.8	3	-N	4	C		16			Y5
954 HOLL	12	2223	2224	2229	N06	E43	.706	15877	16.2	6	-N	4	C		20			Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
955 CULG	12	2226	2228	2257	S19	E69	.926		18.1	31	-F		P	2228	30		Y5
956 CULG	12	2315	2332	0001	S14	W59	.850	15864	8.5	46	-F		C	2332	40	.8	Y5
957 CULG	13	0054	0055	0104	N12	W23	.498	15884	11.3	10	-F		C	0055	40	.5	Y5
GRP72958	13	0329+2	0333+0	0402	N10	W25	.504	15884	11.3	33	-F						E
CULG	13	0329	0333	0411	N11	W25	.512	15884	11.3	42	-N		C	0333	130	1.5	
VORO	13	0331	0333	0352	N10	W26	.516	15884	11.2	21	-F		C	0033	143	1.7	E
959 CULG	13	0335	0339	0352	N20	E45	.787	15877	16.5	17	-N		C	0339	50	.8	Y5
960 CULG	13	0539	0547	0607	S11	W21	.360	15865	11.7	28	-N		P	0547	60	.7	F Y5
GRP72961	13	0825+0	0835+6	0848	S10	E90	1.000	15886	20.1	23	-N						
KANZ	13	0825	0841	0848	S12	E90	1.000	15886	20.1	23	-B	2					
CATA	13	0825	0835	0840D	S08	E90	1.000	15886	20.1	15D	1F	2	C	0835	56		
962 KANZ	13	1027	1035	1043	S12	W29	.484	15865	11.3	16	-F	1					Y5
GRP72963	13	1055+1	1057+3	1110	N18	E20	.530	15874	15.0	15	-F						EH
CATA	13	1055	1100	1120	N19	E20	.542	15874	15.0	25	-N	2	C	1100	140	1.6	
KANZ	13	1055	1058	1110	N17	E22	.538	15874	15.1	15	-F	2					
HTPR	13	1056	1057	1108	N18	E20	.530	15874	15.0	12	-F		C	1057	30	.3	EH
GRP72964	13	1102+1	1107+0	1114	N11	E39	.680	15877	16.4	12	-F						E
KANZ	13	1102	1107	1113	N10	E40	.687	15877	16.5	11	-F	2					
HTPR	13	1103	1107	1115	N12	E39	.685	15877	16.4	12	-F		C	1107	30	.4	E
965 KANZ	13	1113	1117	1123	N11	W31	.585	15884	11.1	10	-F	2					Y5
966 KANZ	13	1123	1123	1128	N16	E55	.859	15877	17.6	5	-F	2					D Y5
GRP72967	13	1258+1	1258+2	1305	N15	E53	.839	15877	17.5	7	-F						
KANZ	13	1258	1258	1305	N15	E53	.839	15877	17.5	7	-F	2					
HTPR	13	1259	1300	1305	N16	E53	.842	15877	17.5	6	-N		C	1300	70	1.1	
GRP72968	13	1258+4	1327+6 1338	1345	N10	W31	.578	15884	11.2	47	-N				80	1.0	EKU
KANZ	13	1258	1338	1349	N11	W31	.585	15884	11.2	51	1N	*					U
RAMY	13	1258	1328	1331D	N09	W32	.584	15884	11.1	33D	-B	*	V		121		U
RAMY	13	1258	1333	1415	N09	W32	.584	15884	11.1	77	-B	*	C		110		U
HTPR	13	1302	1327	1340	N11	W33	.609	15884	11.1	38	-N	*	C	1327	50	.6	EK
LVOV	13	1327E	1327	1335D	N10	W30	.566	15884	11.3	8D	-F	*	C	1327	100	1.3	BCE
KAND	13	1329	1333	1339D	N11	W31	.585	15884	11.2	10D	-F	*	C		52	.7	
CATA	13	1330	1330	1340	N10	W31	.578	15884	11.2	10	-B	*	C	1330	56	.6	
969 KAND	13	1328	1331	1339D	S19	E85	.992	15886	19.9	11D	-N		C				Y5
970 RAMY	13	1435	1436	1441	N19	E38	.716	15877	16.5	6	-N	3	C		19		Y5
GRP72971	13	1500+2	1515+4	1529	S15	E85	.993	15886	20.0	29	-F				25		
HTPR	13	1500	1515	1540	S15	E90	.999	15886	20.4	40	-F		C	1515	30		
KANZ	13	1502	1519	1526	S16	E85	.993	15886	20.0	24	-F	2					
RAMY	13	1515	1519	1529	S12	E81	.984	15886	19.7	14	-F	3	C		15		
972 HOLL	13	1531	1537	1550	N16	E60	.897	15877	18.1	19	-N	3	C		42		Y5
973 RAMY	13	1609	1609	1613	N19	E37	.706	15877	16.4	4	-N	3	C		18		Y5
974 RAMY	13	1617	1618	1623	N19	E37	.706	15877	16.5	6	-N	3	C		18		Y5
GRP72975	13	1709+1	1718+5	1753	N14	E36	.663	15877	16.4	44	-B				60	.8	FU
HOLL	13	1709	1723	1754	N13	E37	.668	15877	16.5	45	-B	3	C		82		U F
RAMY	13	1710	1718	1752	N16	E35	.665	15877	16.3	42	-B	3	C		52		
976 HOLL	13	2039	2046	2109	N14	E56	.861	15877	18.1	30	-B	3	C		79		Y5
977 PALE	13	2126	2126	2130	S13	W35	.572	15865	11.3	4	-N	2	C		23		Y5
978 HOLL	13	2132	2138	2140D	N18	E16	.496	15874	15.1	8D	-B	3	C		54		Y5
979 PALE	13	2141	2146	2149	S13	W35	.572	15865	11.3	8	-N	2	C		33		Y5
GRP72980	13	2228+0	2229+1	2246	S14	W73	.950	15864	8.5	18	-N						SU
PALE	13	2228	2229	2236	S13	W73	.950	15864	8.5	8	-N	2	C		18		S
CULG	13	2228E	2230	2255	S15	W74	.955	15864	8.4	27D	1F		C	2230	80		U

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
981 CULG	13	2234	2235	2238	N20	W27	.616	15868	11.9	4	-F		C	2235	40	.5	Y5
982 ABST	14	0634E	0634	0644D	N11	E30	.573	15877	16.5	10D	?N		P	0634	175	2.2	E Y5
	IMP.1 NO 1 CULG																
983 KAND	14	0804		0835	S27	E01	.339	15885	14.4	31	-F		P				Y5
984 KAND	14	0927		0948	N18	W85	.999	15863	8.0	21	-N		C				Y5
985 ABST	14	0935E	0936	0939D	S26	E01	.323	15885	14.5	4D	-N		P	0936	96	1.1	DJ Y5
986 ABST	14	0938E	0938	0939D	N30	E28	.718	15881	16.5	1D	-F		P	0938	52	.8	D Y5
987 KAND	14	0953	1011	1106	N18	W85	.999	15863	8.0	73	-N		C				Y5
988 KAND	14	1152	1218	1239	S10	E90	1.000	15890	21.2	47	-N		C				Y5
989 KAND	14	1201		1231	N18	W85	.999	15863	8.1	30	-N		C				Y5
990 KAND	14	1228	1239	1303	N03	E90	1.000	15887	21.3	35	-N		C				Y5
991 KAND	14	1320	1322	1325	N06	E90	1.000	15887	21.3	5	-B		C				Y5
	14	1356	1406	NO FLARE PATROL													
	14	1428	1439	NO FLARE PATROL													
	14	1535	1542	NO FLARE PATROL													
	14	1553	1557	NO FLARE PATROL													
	14	1621	1628	NO FLARE PATROL													
	14	1643	1653	NO FLARE PATROL													
992 RAMY	14	1702	1717	1720	S26	W04	.329	15885	14.4	18	-N	3	C		46		Y5
	14	1836	1844	NO FLARE PATROL													
	14	1857	2251	NO FLARE PATROL													
993 VORO	15	0028	0031	0048	N10	W52	.815	15884	11.1	20	-F		C	0031	63	1.1	D Y5
GRP72994	15	0145+1	0147+1	0156	N18	E30	.627	15877	17.3	11	-B				100	1.3	E
PEKG	15	0145	0147	0156	N18	E29	.617	15877	17.2	11	-B		C	0147	88	57.0	E
VORO	15	0146	0148	0155	N18	E31	.638	15877	17.4	9	-B		C	0148	108	1.4	E
GRP72995	15	0335>9	0349+1 0358	0410	N20	E31	.654	15877	17.5	35	-N						U
VORO	15	0335		0339D	N20	E33	.673	15877	17.6	4D	1F		P	0338	161	2.2	D
MITK	15	0337	0349	0410D	N20	E31	.654	15877	17.5	33D	1N		C	0349	270	3.7	E
MANI	15	0345E	0350	0405	N20	E24	.588	15877	17.0	20D	-B	3	C		70		F U
PEKG	15	0345	0358E	0420	N20	E31	.654	15877	17.5	35	-N		P	0358	252	167.0	F
GRP72996	15	0516	0519 0525	0528	N18	W05	.433	15874	14.8	12	-N						
PEKG	15	0516	0519	0523	N19	W06	.451	15874	14.8	7	-N		C	0519	21	12.0	D
ISTA	15	0521	0525	0528	N17	W05	.417	15874	14.8	7	-N		C	0525	34	19.0	D
997 ABST	15	0614	0616	0630	N10	E15	.387	15877	16.4	16	-F		C	0616	87	1.0	D Y5
GRP72998	15	0630E	0651	0659	S25	W12	.362	15885	14.4	29	1N						F
ISTA	15	0630E		0645	S25	W12	.362	15885	14.4	15D	-F						B
ABST	15	0638E	0651	0712	S25	W13	.370	15885	14.3	34D	1N		P	0651	253	2.8	F
GRP72999	15	0641>9	0715+2 0740+5	0840	N19	W04	.446	15874	15.0	119	1B				410	4.6	FHKY
ABST	15	0641E	0743	0802D	N19	W05	.448	15874	14.9	81D	2B		P	0743	611	7.1	FK
ISTA	15	0657	0740	0825D	N17	W05	.417	15874	14.9	88D	1B						F
MANI	15	0706E	0745U	0803D	N19	W04	.446	15874	15.0	57D	1N	3	C		350		FDE
MANI	15	0706E	0715U	0803D	N19	W04	.446	15874	15.0	57D	-B	3	C		150		FDE
KAND	15	0707	0741	0838	N19	W05	.448	15874	14.9	91	-N		P		104	1.2	
PEKG	15	0710	0717	0735	N19	W04	.446	15874	15.0	25	-N		C	0717	168	94.0	F
TACH	15	0712	0740	0804D	N19	W05	.448	15874	14.9	52D	2F		C	0740	486	5.3	CFY
TELV	15	0733	0743	0840	N18	W04	.430	15874	15.0	67	1B	3		0743	450	4.6	H
PEKG	15	0735	0742	0800D	N20	W05	.463	15874	14.9	25D	1B		C	0742	336	189.0	F
ZURI	15	0826E	0826	0934	N18	W04	.430	15874	15.1	68D	2F		P	0826	920	10.5	
0 ABST	15	0732	0739	0752D	S18	E65	.899	15886	20.2	20D	-F		P	0739	79	1.7	D Y5
1 KAND	15	0821	0833	0852	S18	W90	.999	15864	8.6	31	-B		C				Y5
2 ZURI	15	0858	0900	0904	S14	E61	.868	15886	19.9	6	-F		C	0900	50	1.1	Y5

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	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
3 ZURI	15	1038	1040	1040	S25	W15	.389	15885	14.3	2	-F		C	1040	80	.9		Y5
GRP73004	15	1128	1140+0	1146D	N16	E26	.568	15877	17.4	18	-F						F	
TELV	15	1128	1140	1245	N18	E26	.587	15877	17.4	77	-F	3					F	
ZURI	15	1138E	1140	1146	N15	E26	.559	15877	17.4	8D	1F		P	1140	250	3.2		
5 RAMY	15	1235	1236	1243	N18	W04	.430	15874	15.2	8	-N	3	C		22			Y5
GRP73006	15	1323+7	1326+5	1335	N17	W05	.417	15874	15.2	12	-N						F	
TELV	15	1323	1326	1335	N17	W07	.425	15874	15.0	12	-N	3					F	
RAMY	15	1330	1331	1334	N18	W04	.430	15874	15.3	4	-N	3	C		25			
GRP73007	15	1617E		1641	S13	E83	.989	15890	21.9	24	-F						D	
MCMA	15	1617E		1635	S13	E85	.994	15890	22.1	18D	-N		C	1620			D	
HOLL	15	1623E	1623U	1646	S13	E82	.987	15890	21.8	23D	-F	3	C					
	15	1717	1725	NO FLARE PATROL														
8 HOLL	15	1938	1939	1946	N18	W08	.444	15874	15.2	8	-B	3	C		58			Y5
	15	2002	2006	NO FLARE PATROL														
9 HOLL	15	2215	2218	2225	S10	E53	.793	15886	19.9	10	-B	3	C		27			Y5
GRP73010	15	2332+3	2340+0	2351	S14	W61	.868	15865	11.4	19	-N						EGJ	
HOLL	15	2332	2340	2350	S13	W61	.868	15865	11.4	18	-N	3	C		21			
VORO	15	2335	2340	2351	S15	W61	.868	15865	11.4	16	-B		C	2340	90		EJG	
11 HOLL	15	2350	2351	0017	N19	E31	.646	15877	18.3	27	-N	3	C		25			Y5
GRP73012	16	0025+2	0029+1	0035	S10	E52	.782	15886	19.9	10	-B				100	1.6	EH	
HOLL	16	0025	0029	0037	S10	E52	.782	15886	19.9	12	-B	3	C		137			
MANI	16	0027E	0030	0035D	S10	E51	.771	15886	19.8	8D	-B	3	C		80			
VORO	16	0027	0029	0034	S08	E52	.783	15886	19.9	7	-B		C	0029	90	1.4	EH	
GRP73013	16	0509+1	0525+4 0639	0657	N14	E22	.506	15877	17.9	108	1N				260	3.0	EIU	
CULG	16	0509	0529	0700D	N12	E23	.497	15877	17.9	111D	1N		C	0529	260	3.0	I	
MITK	16	0510	0529	0700	N16	E22	.527	15877	17.9	110	1N		C	0529	390	4.8	E	
MANI	16	0522E	0525	0610	N14	E20	.485	15877	17.7	48D	-B	3	C		100		F U	
TELV	16	0616E	0616	0740	N13	E22	.496	15877	17.9	84D	-B	2		0616	61	.6	U	
PEKG	16	0635E	0639	0652	N14	E21	.495	15877	17.8	17D	-N		C	0639	109	62.0	E	
14 CULG	16	0529	0535	0548	N27	E40	.784		19.2	19	-F		P	0535	60	1.0		Y5
15 CULG	16	0652	0655	0657	N24	E35	.722	15877	18.9	5	-F		C	0655	30	.4		Y5
GRP73016	16	0755>9	0843+7	0913	N16	E15	.462	15877	17.5	78	1N				320	3.6	EU	
TELV	16	0755	0850	0915	N16	E15	.462	15877	17.5	80	1B	*		0850	305	3.2	U	
HTPR	16	0807	0843	0910	N18	E14	.480	15877	17.4	63	-N	*	C	0843	120	1.2	E	
ISTA	16	0820E		0900D	N16	E15	.462	15877	17.5	40D	1N	*					F	
CATA	16	0825E	0845	0900D	N15	E14	.441	15877	17.4	35D	1B	*	P	0845	337	3.6		
KAND	16	0839	0845	0910	N15	E18	.476	15877	17.7	31	-F	*	P					
KHAR	16	0842E		0920D	N16	E15	.462	15877	17.5	38D	1N	*	P	0847	350	4.0	E	
17 KAND	16	0816		0910	S26	W27	.528	15885	14.3	54	-F		P					Y5
GRP73018	16	0830+0	0836+1	0846	N19	W19	.532	15874	14.9	16	-N						EG	
KAND	16	0830	0837	0849	N19	W18	.524	15874	15.0	19	-N		P					
HTPR	16	0830	0836	0842	N20	W19	.544	15874	14.9	12	-F		C	0836	30	.3	E	
ISTA	16	0832E		0837D	N17	W23	.547	15874	14.6	5D	1N						GE	
19 KHAR	16	0842E		0850D	N26	E90	1.001		23.1	8D	-F		P	0847	60		DH	Y5
20 KHAR	16	1009E		1042D	S17	E72	.944	15890	21.8	33D	?F		P	1027	200		E	Y5
	IMP.1 NO : HTPR ABST																	
21 KHAR	16	1130E		1152D	S17	E72	.944	15890	21.9	22D	?F		P	1130			E	Y5
	IMP.1 NO : HTPR RAMY KAND																	
22 RAMY	16	1200E	1200U	1212	N18	W17	.504	15874	15.2	12D	-N	3	C		31			Y5
23 KAND	16	1245	1257	1306	N30	E90	1.002	15897	23.3	21	-N		C					Y5
24 RAMY	16	1309	1309	1316	N18	E27	.597	15877	18.6	7	-N	3	C		28			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONQ.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP73025	16	1411+0	1427+1	1504	N19	E26	.596	15877	18.5	53	1B				400	5.0		
MCMA	16	1411	1427	1500	N21	E25	.607	15877	18.5	49	2B		C	1427	400	5.2	E	
RAMY	16	1411	1428	1507	N18	E27	.597	15877	18.6	56	1B	3	C		400		F	
26 RAMY	16	1433	1434	1446	N18	E09	.449	15877	17.3	13	-B	3	C		39		F	Y5
GRP73027	16	1439+1	1443 1455	1700D	N19	W19	.532	15874	15.2	141	-B						FG	
RAMY	16	1439	1443	1515D	N19	W19	.532	15874	15.2	36D	-B	3	C		157		F	
MCMA	16	1440	1455	1700D	N19	W20	.541	15874	15.1	140D	1B		C	1455	200	2.5	EFG	
28 RAMY	16	1532	1532	1537	N18	E27	.597	15877	18.7	5	-N	3	C		22			Y5
GRP73029	16	2013+1	2014+0	2028	N20	E21	.561	15877	18.4	15	-B				40	.5	U	
RAMY	16	2013	2014	2032	N18	E24	.567	15877	18.6	19	-B	2	C		41			
HOLL	16	2014	2014	2028	N20	E21	.561	15877	18.4	14	-B	3	C		40		U	
PALE	16	2014	2014	2026	N20	E16	.521	15877	18.0	12	-N	3	C		25		DE	
GRP73030	16	2032+4	2032+4	2040	N18	E23	.557	15877	18.6	8	-N				20	.2		
HOLL	16	2032	2032	2039	N19	E23	.568	15877	18.6	7	-N	*	C		20			
RAMY	16	2036	2036	2041	N18	E24	.567	15877	18.7	5	-N	*	C		20			
31 HOLL	16	2311	2318	2357	S15	E64	.892	15890	21.8	46	-N	3	C		75			Y5
32 HOLL	16	2350	2402	0017	N19	E00	.441	15877	17.0	27	-F	3	C		19			Y5
33 CULG	17	0513E	0514U	0514D	N36	E01	.684	15880	17.3	1D	-F		P	0514	60	.8		Y5
34 ABST	17	0701	0703	0714	S18	E63	.884	15890	22.0	13	-F		C	0703	87		D	Y5
GRP73035	17	1014+0	1016	1018	S15	E34	.563	15886	20.0	4	-N						D	
ABST	17	1014	1016	1018	S16	E34	.565	15886	20.0	4	-N		C	1016	87	1.1	D	
KANZ	17	1014		1014D	S15	E34	.563	15886	20.0		-F	2						
	17	1101	1125	NO FLARE PATROL														
	17	1140	1207	NO FLARE PATROL														
	17	1300	1314	NO FLARE PATROL														
GRP73036	17	1618+3	1621+4	1631	S14	E56	.823	15890	21.9	13	-N				50	.9	F	
HOLL	17	1618	1623	1631	S14	E56	.823	15890	21.9	13	-B	*	C		55		F	
RAMY	17	1620	1621	1643	S16	E56	.823	15890	21.9	23	-B	*	C		58		F	
MCMA	17	1621	1625	1630	S13	E56	.823	15890	21.9	9	-F	*	C	1623	40	.7	E	
37 HOLL	17	1619	1621	1625	N40	W03	.734	15880	17.5	6	-N	3	C		19			Y5
38 RAMY	17	1647	1647	1657	N05	E45	.726	15887	21.1	10	-N	3	C		22			Y5
39 MCMA	17	1801	1808	1825D	S25	W46	.736	15885	14.3	24D	-N		C	1808	50	.7	E	Y5
40 RAMY	17	1829E	1832	1834	N06	E43	.705	15887	21.0	5D	-N	2	C		27			Y5
	17	2010	2016	NO FLARE PATROL														
41 HOLL	17	2105	2106	2112	N08	E39	.666	15887	20.8	7	-N	3	C		18			Y5
42 CULG	17	2155	2212U	2231	N20	E11	.488	15877	18.7	36	-F		P	2212	40	.5		Y5
43 CULG	18	0000	0006	0022	S29	E68	.923	15895	23.1	22	-N		C	0006	30			Y5
44 CULG	18	0011	0033	0126	N38	W06	.713	15880	17.6	75	-N		C	0033	30	.5		Y5
45 VORO	18	0131	0132	0136	S28	E66	.910	15895	23.0	5	-N		C	0132	36		D	Y5
46 VORO	18	0146	0148	0156	N29	W22	.667	15881	16.4	10	-N		C	0148	27	.3	DG	Y5
47 CULG	18	0224E	0231	0326	S23	W42	.686	15885	15.0	62D	?F		P	0231	160	2.1		Y5
	IMP.1 NO 1 PALE			VORO	MITK													
GRP73048	18	0225>9	0239+2	0243D	N19	E02	.441	15877	18.3	18	-F				100	1.1	E	
CULG	18	0225	0241	0243D	N19	E03	.443	15877	18.3	18D	-F		C	0241	80	.9		
VORO	18	0237	0239	0243D	N20	E02	.457	15877	18.3	6D	-F		P	0239	134	1.5	E	
GRP73049	18	0232+2	0239+2	0324	N31	E68	.967	15897	23.2	52	-B				90		EJ	
CULG	18	0232	0241	0324	N30	E67	.962	15897	23.1	52	1N		C	0241	100			
VORO	18	0234	0239	0243D	N32	E69	.972	15897	23.3	9D	-B		P	0239	90		EJ	
50 MITK	18	0413	0436	0454	N14	W08	.384	15877	17.6	41	1F		C	0436	360	4.0	E	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
51 ISTA	18	0635E		0650	S27	W38	.658	15896	15.4	150	-F						E	Y5
52 ISTA	18	0635		0710	S11	W47	.726		14.7	35	-F	*					E	Y5
53 ISTA	18	0730		0750	S13	W48	.738		14.7	20	-F						E	Y5
	18	1200	1215	NO FLARE PATROL														
	18	1228	1301	NO FLARE PATROL														
	18	1309	1354	NO FLARE PATROL														
	18	0520	0536	NO FLARE PATROL														
	18	0551	0610	NO FLARE PATROL														
54 HOLL	18	1355	1426	1445	N40	W14	.753	15880	17.5	50	-N	3	C		66		F	Y5
55 HOLL	18	1404	1405	1422	S11	E18	.312	15886	19.9	18	-N	3	C		30			Y5
56 HOLL	18	1418	1424	1425D	N06	E32	.567	15887	21.0	7D	1B	3	V		402		ZDE	Y5
57 HOLL	18	1440	1443	1450	S28	W41	.695	15896	15.5	10	-B	3	C		60		F	Y5
GRP73058	18	1531	1543	1705	S24	W48	.754	15896	15.0	94	-B						U	
HOLL	18	1531	1543	1705	S25	W47	.746	15896	15.1	94	-B	3	C		90		UDE	
MCMA	18	1607E		1655D	S24	W49	.764	15896	15.0	48D	1N		C	1607	175	2.8	F	
59 HOLL	18	1541	1541	1548	N07	W17	.376	15877	17.4	7	-N	4	C		24		F	Y5
60 HOLL	18	1615	1615	1627	S11	E17	.296	15886	20.0	12	-N	4	C		23			Y5
61 HOLL	18	1646	1650	1659	N07	W17	.376	15877	17.4	13	-B	4	C		39			Y5
62 HOLL	18	1741	1741	1750	S15	E14	.273	15886	19.8	9	-N	4	C		27		F	Y5
GRP73063	18	1756+1	1759 1811	1845	S15	E12	.245	15886	19.6	49	1B				200	2.1	LU	
HOLL	18	1756	1811	1904	S16	E12	.254	15886	19.6	68	1N	4	C		206		UDE	
PALE	18	1757	1759	1815	S15	E14	.273	15886	19.8	18	1B	3	C		194		U F	
MCMA	18	1758E		1845D	S15	E12	.245	15886	19.6	47D	1B		C	1758	220	2.1	EL	
GRP73064	18	1852+2	1855+4	1905	N06	E29	.526	15887	21.0	13	-N				50	.6	E	
HOLL	18	1852	1859	1908	N06	E30	.540	15887	21.0	16	-B	3	C		95			
PALE	18	1854	1855	1902	N06	E29	.526	15887	21.0	8	-N	3	C		34		DE	
MCMA	18	1859E		1900D	N08	E28	.526	15887	20.9	1D	-F		P	1900	50	.6	E	
65 HOLL	18	1945	1954	2003	N16	W07	.409	15877	18.3	18	-N	3	C		19			Y5
66 HOLL	18	2014	2014	2017	N16	W07	.409	15877	18.3	3	-N	3	C		44			Y5
67 HOLL	18	2031	2046	2052	S28	W44	.725	15896	15.6	21	-B	3	C		33		U	Y5
GRP73068	18	2049	2054 2106	2130	N18	W08	.443	15877	18.3	41	-B							
HOLL	18	2049	2054	2130	N18	W08	.443	15877	18.3	41	-B	3	C		125			
HOLL	18	2049	2106	2130	N18	W08	.443	15877	18.3	41	-N	3	C		94			
69 HOLL	18	2234	2242	2250	N18	W10	.454	15877	18.2	16	-B	3	C		30			Y5
GRP73070	18	2259+1	2300+5 2313	2316	N17	W07	.424	15877	18.4	17	-N				90	1.0		
CULG	18	2259	2305	2323	N18	W07	.439	15877	18.4	24	-N		C	2305	90	1.0	F	
PALE	18	2300	2300	2308	N18	W07	.439	15877	18.4	8	-N	3	C		87		DE	
HOLL	18	2300	2300	2322	N16	W09	.419	15877	18.3	22	-B	3	C		96		DE	
HOLL	18	2300	2313	2322	N16	W09	.419	15877	18.3	22	-N	3	C		56		DE	
MANI	18	2302E	2302U	2309D	N17	W08	.429	15877	18.4	7D	-N	2	C		70		DE	
GRP73071	18	2344+5	2351+1	0004	N17	W07	.424	15877	18.5	20	-N				35	.4		
CULG	18	2344	2351	0010	N19	W06	.450	15877	18.5	26	-N		C	2351	40	.4		
HOLL	18	2349	2352	2357	N16	W09	.419	15877	18.3	8	-N	3	C		27			
72 CULG	18	2357	2405	0024	N15	E47	.783	15894	22.5	27	-F		C	2405	60	1.0		Y5
73 CULG	19	0019	0031	0047	N25	W03	.533		18.8	28	-F		C	0031	60	.7		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.		
GRP73074	19	0050+2	0055+8	0140	N07	E24	.466	15887	20.8	50	1B				210	2.4	Z	
CULG	19	0050	0100	0234	N08	E24	.474	15887	20.8	104	1B	*	C	0100	210	2.4		
PALE	19	0052	0055	0140	N06	E26	.486	15887	21.0	48	1B	*	C		207		DE	
MANI	19	0053E	0055	0133	N07	E25	.479	15887	20.9	40D	1B	*	C		180		F	
MANI	19	0053E	0102	0133	N07	E25	.479	15887	20.9	40D	1N	*	C		200		F	
PEKG	19	0055E	0103	0125D	N08	E24	.474	15887	20.8	30D	1B	*	P	0103	399	230.0	FZ	
75 CULG	19	0051	0052	0100	N18	W09	.448	15877	18.4	9	-F		C	0052	70	.8		Y5
76 CULG	19	0128	0244	0302	S26	W58	.850	15885	14.7	94	?F		C	0244	120	2.2	FI	Y5
	IMP.1 NO 1 PALE																	
77 CULG	19	0234	0241	0309	S13	E18	.320	15886	20.5	35	-N		C	0241	70	.7		Y5
78 CULG	19	0258	0300	0306	N28	W35	.751	15881	16.5	8	-F		C	0300	40	.6		Y5
79 CULG	19	0710	0722	0736	S23	W62	.879	15885	14.6	26	-F		C	0722	50	1.0		Y5
80 ABST	19	0759E	0801	0805D	S28	E60	.868	15895	23.8	6D	-F		P	0801	87	1.7	D	Y5
81 ABST	19	0759E	0807	0812D	N09	E18	.408	15887	20.7	13D	-F	*	P	0807	87	1.0	D	Y5
82 ZURI	19	0844E	0848	0858	N14	W05	.369	15877	19.0	14D	-F		P	0848	60	.7		Y5
83 ABST	19	0925E	0925	0926D	S30	E90	.998	15899	26.1	1D	?F		P	0925	70		D	Y5
	IMP.1 NO 1 ZURI																	
GRP73084	19	0944+8	0954>9	1012	S12	E14	.253	15886	20.5	28	1N						EG	
WEND	19	0944	0954	1012	S11	E10	.184	15886	20.2	28	1N		P		300	3.2	EG	
LOCA	19	0950E	0955	1010	S11	E12	.216	15886	20.3	20D	1N		P	0955	204	2.2		
ZURI	19	0952	0956	1022	S13	E15	.274	15886	20.5	30	1N		C	0956	220	2.4		
CATA	19	1000E	1000	1005D	S12	E14	.253	15886	20.5	5D	-N	2	P	1000	140	1.5		
ABST	19	1000E	1004	1010D	S12	E15	.269	15886	20.5	10D	-N		P	1004	148	1.6	E	
GRP73085	19	0956	0956	1010	N26	W39	.769	15881	16.5	14	-F							
ZURI	19	0956	0956	1010	N26	W39	.769	15881	16.5	14	-F		C	0956	80	1.3		
GRP73086	19	1018	1026 1047	1102D	N08	E16	.374	15887	20.6	44	-F						D	
ZURI	19	1018	1026	1052D	N08	E17	.386	15887	20.7	34D	-F		P	1026	70	.8		
ABST	19	1021E	1047	1102D	N09	E16	.385	15887	20.6	41D	-N		P	1047	87	1.0	D	
87 TELV	19	1107	1110	1133	N02	E05	.180		19.8	26	-N	2		1110	120	1.2	U	Y5
	19	1145	1150	NO FLARE PATROL														
	19	1243	1244	NO FLARE PATROL														
	19	1250	1318	NO FLARE PATROL														
GRP73088	19	1516	1521 1531	1541	S15	E02	.142	15886	19.8	25	-N						F	
HOLL	19	1516	1521	1541	S15	E02	.142	15886	19.8	25	-N	4	C		38		F	
HOLL	19	1516	1531	1541	S15	E02	.142	15886	19.8	25	-F	4	C		23		F	
89 RAMY	19	1654	1657	1745D	N07	E15	.351	15887	20.8	51D	1B	3	C		300		UDE	Y5
GRP73090	19	1803+1	1804+4	1816	S28	W58	.853	15896	15.4	13	-N				20	.4		
RAMY	19	1803	1805	1822D	S27	W58	.851	15896	15.4	19D	-N	2	C		20			
HOLL	19	1803	1804	1812	S28	W56	.837	15896	15.6	9	-N	3	C		22		F	
PALE	19	1804	1808	1816	S28	W59	.861	15896	15.3	12	-N	3	C		18		DE	
GRP73091	19	1835+1	1836+1	1847	S09	E10	.175	15886	20.5	12	-N				35	.4		
RAMY	19	1835	1837	1851	S07	E10	.172	15886	20.5	16	-N	2	C		30		F	
PALE	19	1836	1836	1843	S12	E10	.191	15886	20.5	7	-N	3	C		42		FDE	
92 PALE	19	2105E	2115	2121	S31	E74	.955	15899	25.4	16D	-N	3	C		19		DE	Y5
93 VORO	19	2237	2239	2247	N04	E08	.236	15887	20.5	10	-F		C	2239	99	1.0	DH	Y5
GRP73094	19	2239	2257	2315	S13	00	.103	15886	19.9	36	-N							
VORO	19	2239	2257	2319	S14	W01	.122	15886	19.9	40	-N		C	2257	90	.9	E	
MANI	19	2302E	2302U	2310	S13	E00	.103	15886	20.0	8D	-N	2	C		20		F	
95 VORO	20	0105	0107	0116	S28	E70	.934	15899	25.3	11	-N		C	0107	36		D	Y5
96 CULG	20	0156	0221	0245	S32	E70	.936	15899	25.3	49	1F		C	0221	80			Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP73097	20	0225	0318+2	0330D	N08	E07	.286	15887	20.6	65	-N				120	1.3	EK	
CULG	20	0225	0320U	0406	N08	E08	.293	15887	20.7	101	-F		C	0320	120	1.3	K	
VORO	20	0240E		0257D	N08	E07	.286	15887	20.6	17D	1F		P	0241	287	3.0	E	
PALE	20	0311E	0319	0330	N07	E10	.296	15887	20.9	19D	1N	3	C		163		DE	
MANI	20	0318E	0318U	0327D	N08	E07	.286	15887	20.7	9D	-N	3	C		80			
98 CULG	20	0347	0403	0445	N30	E40	.802	15897	23.2	58	-N		C	0403	60	1.0	G	Y5
99 CULG	20	0444	0501	0525	S31	E70	.935	15899	25.4	41	-F		C	0501	60			Y5
100 CULG	20	0505	0523	0602	S24	W70	.933	15885	15.0	57	-F		C	0523	70			Y5
101 CULG	20	0532	0533	0605	S12	E03	.100	15886	20.5	33	-N		C	0533	30	.3		Y5
GRP73102	20	0612	0620+4	0633	N08	E06	.279	15887	20.7	21	-F						EJ	
CULG	20	0612	0620	0633	N08	E07	.286	15887	20.8	21	-F		C	0620	60	.6		
ABST	20	0622E	0624	0625D	N08	E06	.279	15887	20.7	3D	-N		P	0624	157	1.7	EJ	
103 CULG	20	0627	0641	0704	S15	W05	.162	15886	19.9	37	-F		C	0641	20	.2		Y5
104 CULG	20	0642	0654	0730D	S16	E24	.425	15890	22.1	48D	-F		P	0654	70	.8	FI	Y5
105 CULG	20	0700	0702	0723	N23	E57	.893	15898	24.6	23	-N		C	0702	30	.6		Y5
106 ABST	20	0821E	0824	0833D	N39	W39	.853	15880	17.4	12D	-F		P	0824	87	1.6	D	Y5
GRP73107	20	0944	0950	1008	N11	W56	.853	15877	16.2	24	-F							
ZURI	20	0944	0950	1008	N11	W56	.853	15877	16.2	24	-F		C	0950	60	1.2		
GRP73108	20	1000	1004	1008	S16	W04	.170	15886	20.1	8	-F							
ZURI	20	1000	1004	1008	S16	W04	.170	15886	20.1	8	-F		C	1004	100	1.1		
GRP73109	20	1016	1018	1031	N03	E03	.182	15887	20.7	15	-N				140	1.4	DK	
ZURI	20	1016	1018	1022	N03	E02	.178	15887	20.6	6	-N		C	1018	180	1.9		
ABST	20	1020E	1020	1040D	N04	E04	.204	15887	20.7	20D	-F		P	1020	96	1.0	DK	
110 ABST	20	1020E	1030	1040D	S17	W04	.185	15886	20.1	20D	-F		P	1030	105	1.1	D	Y5
111 TELV	20	1141E	1154	1230	N28	W12	.601		19.6	49D	1N	2		1154	245	2.5	C	Y5
GRP73112	20	1218	1246	1246D	N07	E05	.257	15887	20.9	28	1B						EU	
TELV	20	1218	1246	1246D	N07	E08	.278	15887	21.1	28D	1B	2		1246	450	4.6	U	
HTPR	20	1242E		1243D	N07	E02	.245	15887	20.7	1D	-B		C	1242	180	1.8	E	
	20	1246	1307	NO FLARE PATROL														
GRP73113	20	1307E	1315	1327	N06	E02	.228	15887	20.7	20	-N						EIJ	
ZURI	20	1307E	1308	1308D	N07	E02	.245	15887	20.7	1D	-B		P	1308	100	1.1		
LVOV	20	1309	1315	1327	N03	E01	.175	15887	20.6	18	1N		C	1315	300	3.2	CJ	
HTPR	20	1312E		1326D	N09	E02	.279	15887	20.7	14D	-N		C	1315	50	.5	EI	
HTPR	20	1313E		1324	N04	E02	.195	15887	20.7	11D	-F		C	1316	30	.3	EI	
	20	1308	1309	NO FLARE PATROL														
	20	1401	1403	NO FLARE PATROL														
	20	1710	1724	NO FLARE PATROL														
GRP73114	20	2031	2031	2055	S13	W10	.199	15886	20.1	24	-B				60	.6		
HOLL	20	2031	2031	2058	S14	W10	.208	15886	20.1	27	-B	3	C		86		F	
PALE	20	2036E	2036U	2051	S13	W10	.199	15886	20.1	15D	-N	2	C		44		DE	
115 HOLL	20	2214	2218	2228	N07	W02	.245	15887	20.8	14	-B	3	C		50		U F	Y5
116 CULG	20	2244	2249	2302	S18	W08	.232	15886	20.3	18	-F		C	2249	20	.2		Y5
117 CULG	20	2254	2257	2310	N08	W48	.768	15877	17.4	16	-F		C	2257	70	1.1		Y5
118 CULG	20	2300	2320	0005	S25	W13	.372	15902	20.0	65	-F		C	2320	50	.6	S	Y5
119 CULG	20	2347	2349	0003	S22	W90	.999	15885	14.2	16	-N		C	2349	30			Y5
120 CULG	21	0116	0130	0136	N41	W54	.933	15880	17.0	20	-F		C	0130	20			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP73121	21	0720E	0720 0730	0735	N07	W07	.270	15887	20.8	15	-N				50	.5		
MANI	21	0720E	0720U	0723D	N08	W07	.285	15887	20.8	3D	-N	2	C		50		F	
HTPR	21	0724E		0726D	N07	W07	.270	15887	20.8	2D	-F		C	0725	30	.3	E	
CATA	21	0725E	0730	0735	N07	W07	.270	15887	20.8	10D	-N	2	P	0730	84	.8		
GRP73122	21	0851+4	0855+0	0904	N07	W08	.278	15887	20.8	13	-F							
KANZ	21	0851	0855	0902	N08	W08	.292	15887	20.8	11	-F	1						
ZURI	21	0855	0855	0905	N07	W08	.278	15887	20.8	10	-F		C	0855	80	.9		
	21	1015	1108	NO FLARE PATROL														
GRP73123	21	1221E	1223	1227D	N07	W10	.296	15887	20.8	6	-F							
ZURI	21	1221E	1223	1227D	N07	W10	.296	15887	20.8	6D	-F		P	1223	90	1.0		
	21	1242	1246	NO FLARE PATROL														
GRP73124	21	1258+3	1307+4	1339	N07	W09	.286	15887	20.9	41	1B				300	3.1	EJLU	
HTPR	21	1258	1307	1325	N07	W08	.278	15887	20.9	27	1B		C	1307	240	2.4	ELU	
LVOV	21	1301E	1311	1339	N07	W09	.286	15887	20.9	38D	1N		C	1311	300	3.2	CJ	
ZURI	21	1301	1307	1347	N07	W10	.296	15887	20.8	46	2B		C	1307	880	9.4		
GRP73125	21	1341+0	1343+2	1401	N15	W39	.701	15877	18.6	20	-F						E	
HTPR	21	1341	1345	1350	N12	W37	.662	15877	18.8	9	-F		C	1345	20	.2	E	
ZURI	21	1341	1343	1411	N18	W42	.748	15877	18.4	30	-F		C	1343	100	1.6		
GRP73126	21	1547+1	1559+4	1615	N25	W66	.949	15881	16.7	28	-F							
ZURI	21	1547	1559	1603D	N24	W70	.966	15881	16.4	16D	-F		P	1559	70			
HOLL	21	1548	1603	1615	N26	W63	.936	15881	16.9	27	-N	3	C					
	21	1731	1754	NO FLARE PATROL														
	21	1804	1909	NO FLARE PATROL														
	21	1941	1957	NO FLARE PATROL														
	21	2000	2011	NO FLARE PATROL														
127 HCMA	21	2011E		2015	S17	W22	.402	15886	20.2	4D	-F	*	P	2011	30	.3	D	Y5
128 HCMA	21	2011E		2055D	N07	W13	.327	15887	20.9	44D	-N		C	2019	80	.8	E	Y5
GRP73129	21	2057	2113+5	2156	N07	W14	.339	15887	20.8	59	-B				190	2.0	FU	
HCMA	21	2057	2118	2155D	N07	W13	.327	15887	20.9	58D	1B		C	2118	200	2.1	FU	
CULG	21	2112E	2113U	2156	N07	W15	.350	15887	20.8	44D	-N		P	2113	180	1.9	U	
	21	2211	2220	NO FLARE PATROL														
	21	0356	0400	NO FLARE PATROL														
	21	0405	0416	NO FLARE PATROL														
	21	0453	0508	NO FLARE PATROL														
	21	0512	0523	NO FLARE PATROL														
	21	0528	0556	NO FLARE PATROL														
	21	0609	0720	NO FLARE PATROL														
	21	0723	0724	NO FLARE PATROL														
	21	0745	0747	NO FLARE PATROL														
	21	0959	1000	NO FLARE PATROL														
GRP73130	21	2240	2247	2309	N07	W16	.362	15887	20.7	29	-N				100	1.1	E	
CULG	21	2240	2247	2302	N07	W15	.350	15887	20.8	22	-N		C	2247	100	1.1		
VORO	21	2247E		2316	N07	W17	.375	15887	20.7	29D	-N		P	2247	99	1.0	E	
131 CULG	21	2319	2321	2331	S17	W25	.444	15886	20.1	12	-F		C	2321	20	.2		Y5
GRP73132	22	0057	0059+4	0107	N07	E80	.988	15904	28.0	10	1B				90		DHJ	
VORO	22	0057	0059	0104	N09	E82	.993	15904	28.2	7	-B		C	0059	90		DHJ	
MANI	22	0100E	0103	0110D	N05	E78	.981	15904	27.9	10D	1B	3	C		100			
133 CULG	22	0158	0159	0207	N09	E87	.999	15904	28.6	9	-B		C	0159	20			Y5
GRP73134	22	0324+1	0325+2	0355D	N07	W19	.400	15887	20.7	31	1B				410	4.5	FHUZ	
PALE	22	0324	0326	0343D	N07	W19	.400	15887	20.7	19D	2B	3	C		530		U	
CULG	22	0325E	0325	0445	N07	W19	.400	15887	20.7	80D	1B		P	0325	260	2.9	CU	
MITK	22	0325	0327	0355	N07	W20	.413	15887	20.6	30	1N		C	0327	440	5.0	FHZ	
135 ABST	22	0628E	0633	0636D	N06	W25	.471	15887	20.4	8D	-F		P	0633	87	1.0	DJ	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP73136	22	0732+6	0740+3	0752	S15	W32	.535	15886	19.9	20	-F				80	1.0	D
HTPR	22	0732	0740	0750	S15	W33	.545	15886	19.8	18	-F		C	0740	60	.7	
ABST	22	0738	0743	0753	S15	W32	.535	15886	19.9	15	-F		C	0743	96	1.2	D
GRP73137	22	0803+1	0805+1	0825	N24	W04	.519	15893	22.0	22	-F						
ABST	22	0803	0805	0824	N24	W04	.519	15893	22.0	21	-F		C	0805	131	1.6	F
HTPR	22	0804	0806	0825	N24	W04	.519	15893	22.0	21	-F		C	0806	30	.3	E
GRP73138	22	0840+5	0848+2	0855	S18	W30	.518	15886	20.1	15	-F				30	.4	D
HTPR	22	0840	0850	0901	S17	W30	.514	15886	20.1	21	-F		C	0850	20	.2	
ABST	22	0842	0848	0855	S18	W31	.532	15886	20.0	13	-F		C	0848	87	1.0	D
CATA	22	0845	0850	0855	S18	W29	.505	15886	20.2	10	-N	2	C	0850	28	.3	
GRP73139	22	0905	0907+4	0915	S15	W33	.549	15886	19.9	10	-N				70	.8	D
HTPR	22	0905	0907	0913	S15	W34	.563	15886	19.8	8	-N		C	0907	50	.6	
ABST	22	0907E	0911	0917	S16	W33	.552	15886	19.9	10D	-N		P	0911	87	1.1	D
GRP73140	22	1148+1	1150+6	1210	S29	E42	.710	15899	25.6	22	-F						EK
KAND	22	1148	1156	1209	S30	E43	.724	15899	25.7	21	-F		P				
HTPR	22	1149	1150	1210	S29	E42	.710	15899	25.6	21	-F		C	1150	40	.7	EK
GRP73141	22	1338+1	1341+4 1400	1545	N07	W26	.492	15887	20.6	127	1B				350	4.0	FUZ
RAMY	22	1317	1341U	1458D	N07	W28	.519	15887	20.5	101D	2B	2	C		539		Z U
TELV	22	1338	1341	1341D	N06	W27	.499	15887	20.5	3D	2B	2		1341	450	5.2	C
MCMA	22	1338	1345	1700	N07	W26	.492	15887	20.6	202	1B		C	1345	250	2.9	EFU
HTPR	22	1339	1341	1403	N08	W25	.486	15887	20.7	24	1B		C	1340	240	2.6	U
HOLL	22	1356E	1400	1546	N07	W24	.465	15887	20.8	110D	1B	3	C		376		U F
HOLL	22	1356E	1527	1546	N07	W24	.465	15887	20.8	110D	-N	3	C		95		U F
HUAN	22	1630E		1632D	N07	W31	.558	15887	20.4	2D	-F	1	P				
142 MCMA	22	1434	1435	1439	S30	E40	.695	15899	25.6	5	-F		C	1435	25	.4	DL Y5
143 HOLL	22	1724	1725	1732	N07	W26	.492	15887	20.8	8	-B	3	C		21		Y5
GRP73144	22	1811+8	1813 1820+2	1837	N06	E56	.921	15904	27.7	26	-B				60		EKL
MCMA	22	1811	1813	1837	N08	E68	.936	15904	27.9	26	-B		C	1822	30	.9	EKL
MCMA	22	1811	1822	1837	N08	E68	.936	15904	27.9	26	-B		C				
BIGB	22	1812		1837	N06	E70	.946	15904	28.0	25	-B		P	1824	60		
HOLL	22	1813	1820	1844	N05	E62	.891	15904	27.4	31	-B	3	C		113		DE
HOLL	22	1813	1831	1844	N05	E62	.891	15904	27.4	31	-F	3	C		44		DE
PALE	22	1819	1820	1830	N07	E65	.916	15904	27.6	11	-B	3	C		63		DE
GRP73145	22	1848+8	1855+3	1916	N27	W09	.575	15893	22.1	28	-F				90	1.1	
MCMA	22	1848	1858	1925	N27	W10	.578	15893	22.0	37	-F		C	1858	90	1.1	E
HOLL	22	1849	1855	1907	N24	W08	.529	15893	22.2	18	-N	3	C		101		F
MCMA	22	1850	1855	1907	N27	W09	.575	15893	22.1	17	-F		C	1855	60	.8	E
HUAN	22	1856		1903D	N29	W09	.602	15893	22.1	7D	-F	1	P				
GRP73146	22	1852+6	1901+2	1916	N07	W26	.492	15887	20.8	24	-N						EKU
HUAN	22	1852E		1903D	N07	W25	.479	15887	20.9	11D	-N	1	P	1900	40	.4	E
MCMA	22	1852	1903	2000	N07	W28	.519	15887	20.7	68	-N		C	1903	100	1.2	EK
PALE	22	1858	1901	1911	N08	W26	.499	15887	20.8	13	-N	3	C		31		F
HOLL	22	1858	1901	1916	N07	W27	.505	15887	20.8	18	-B	3	C		84		UDE
GRP73147	22	1923	1931+0	1955	N07	W26	.492	15887	20.9	32	-N						FU
MCMA	22	1852	1931	2000	N07	W28	.519	15887	20.7	68	-N		C				
HOLL	22	1923	1931	1949	N07	W24	.465	15887	21.0	26	-B	3	C		86		U F
GRP73148	22	1945>9	1959	2009	N25	W09	.547	15893	22.1	24	-N				30	.4	E
MCMA	22	1945E		2001D	N27	W10	.578	15893	22.1	16D	-F		C	2000	30	.4	E
HOLL	22	1957	1959	2009	N24	W09	.533	15893	22.2	12	-B	3	C		27		
149 HOLL	22	2043	2046	2050	N07	W28	.519	15887	20.8	7	-B	3	C		21		Y5
150 HOLL	22	2134	2142	2146	N07	W29	.532	15887	20.7	12	-B	3	C		39		Y5
GRP73151	22	2319+1	2321 2328	2337	S13	W42	.666	15886	19.8	18	-N						DJ
VORO	22	2319	2321	2336	S11	W44	.690	15886	19.7	17	-B		C	2321	54	.7	DJ
CULG	22	2320	2328	2338	S15	W40	.643	15886	20.0	18	-F		C	2328	30	.4	
GRP73152	22	2337+1	2340+1	2352	N08	E69	.942	15904	28.2	15	-N						E
CULG	22	2337	2341	2352	N07	E68	.935	15904	28.1	15	-N		C	2341	30	.8	
VORO	22	2338	2340	2350D	N09	E70	.949	15904	28.2	12D	-B		C	2340	90		E

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
153 CULG	23	0030	0034	0040	N06	W35	.605	15887	20.4	10	-N		C	0034	10	.1	Y5
GRP73154	23	0516+0	0518+0	0530	S16	W44	.694	15886	19.9	14	-N						EU
MITK	23	0516	0518	0530	S15	W44	.693	15886	19.9	14	-N		C	0518			E
ABST	23	0516E	0518	05240	S17	W44	.696	15886	19.9	80	1N		P	0518	218	3.1	EU
155 ABST	23	0516E	0519	05240	N06	W37	.631	15887	20.4	80	? F	*	P	0519	157	2.1	DJ Y5
	IMP.1 NO I TACH MITK																
GRP73156	23	0617	0640	0654	N08	W39	.665	15887	20.3	37	-F				130	1.7	
ABST	23	0617	0640	0700	N08	W40	.677	15887	20.3	43	1F		C	0640	166	2.3	F
HTPR	23	0641E		0648	N08	W39	.665	15887	20.4	70	-F		C	0642	100	1.3	BE
GRP73157	23	0635+9	0647+1	0700	N08	E62	.896	15904	27.9	25	1B				150	3.3	EJ
BUCA	23	0635		0653	N08	E62	.896	15904	27.9	18	1B		C	0645	139	3.0	CE
HTPR	23	0640	0648	0658	N08	E60	.880	15904	27.8	18	1B		C	0648	160	3.2	E
ABST	23	0644	0647	0708	N08	E65	.917	15904	28.2	24	2B		C	0647	340		FJ
MITK	23	0647E		0701	N08	E63	.903	15904	28.0	140	1N		C	0647	150	3.5	
158 KANO	23	0745E		0759	N07	W38	.648	15887	20.5	140	-N		P		67	.9	Y5
GRP73159	23	0837+4	0838+4 0849	0858	N40	W84	1.000	15880	17.1	21	-N				35		EKV
ABST	23	0837	0838	08580	N40	W89	1.002	15880	16.7	210	1N	*	P	0838	122		EKV
KANZ	23	0838	0838	0857	N40	W79	.998	15880	17.4	19	-F	2					
MONT	23	0839	0849	0858	N42	W86	1.000	15880	16.9	19	-F		C	0849	40		E
CATA	23	0840	0840	08450	N37	W80	.998	15880	17.4	50	-N	2	P	0845	28		
KANO	23	0841	0842	0855	N40	W85	1.000	15880	17.0	14	-N	*	C				
160 ABST	23	0924	0926	0942	N10	E50	.794	15904	27.1	18	-F		C	0926	87	1.4	D Y5
GRP73161	23	0933+2	0938 1001+4	1016	N06	W44	.717	15887	20.1	43	-N				140	2.0	U
KANZ	23	0933	1001	1016	N07	W44	.720	15887	20.1	43	-B	2					U
ABST	23	0935	0938	09460	N06	W44	.717	15887	20.1	110	1F		P	0938	262	3.8	E
ABST	23	0950	1002	1014	N06	W45	.728	15887	20.0	24	1N		C	1002	175	2.6	F
MONT	23	0954E	1002	10060	N07	W41	.685	15887	20.3	120	-N		C	1002	70		
CATA	23	0955	1005	10250	N06	W43	.705	15887	20.2	300	-B	2	P	1005	140	1.9	
	23	1145	1400	NO FLARE PATROL													
	23	0601	0604	NO FLARE PATROL													
162 KANZ	23	1445	1453	1457	S30	E29	.583	15899	25.8	12	-F	2					Y5
163 KANZ	23	1525	1530	1533	N08	E49	.778	15904	27.3	8	-N	2					F Y5
GRP73164	23	1608+1	1609+0	1622	N07	W44	.720	15887	20.4	14	-N				30	.4	E
MCMA	23	1608	1609	16120	N07	W47	.754	15887	20.1	40	-N		C	1609	40	.6	E
HOLL	23	1609	1609	1622	N08	W42	.700	15887	20.5	13	-B	3	C		22		
GRP73165	23	1727>9	1731 1745+1	1814	N07	W42	.697	15887	20.6	47	-N				60	.8	U
HOLL	23	1727	1746	1808	N07	W41	.685	15887	20.7	41	-B	*	C		90		U
HOLL	23	1727	1731	1808	N07	W41	.685	15887	20.7	41	-N	*	C		76		U
PALE	23	1745	1745	18200	N08	W43	.712	15887	20.5	350	-N	*	C		38		DE
GRP73166	23	1728	1734+0	1743	S31	E22	.525	15899	25.4	15	-N						
HOLL	23	1728	1734	1741	S31	E22	.525	15899	25.4	13	-B	3	C		95		
PALE	23	1734E	1734U	1745D	S31	E23	.534	15899	25.5	110	-N	2	C		28		
167 HOLL	23	1735	1750	1757	N05	E49	.770	15904	27.4	22	-B	3	C		46		Y5
GRP73168	23	1904+5	1910 1920+2	2015	N08	W43	.712	15887	20.6	71	1B				280	4.0	FU
HOLL	23	1904	1920	2015	N08	W43	.712	15887	20.6	71	1B	3	C		268		U
HOLL	23	1904	1936	2015	N08	W43	.712	15887	20.6	71	1B	3	C		238		U
PALE	23	1909	1922	20150	N08	W43	.712	15887	20.6	660	1B	2	C		299		U F
PALE	23	1909	1910	19120	N08	W43	.712	15887	20.6	30	1B	2	C		332		
169 HOLL	23	1933	1936	1942	S19	W43	.688		20.6	9	-N	3	C		27		Y5
GRP73170	23	2044	2047 2057	2105	N08	W44	.724	15887	20.6	21	-B						
HOLL	23	2044	2047	2105	N08	W44	.724	15887	20.6	21	-B	3	C		115		FDE
HOLL	23	2044	2057	2105	N08	W44	.724	15887	20.6	21	-N	3	C		47		FDE
171 HOLL	23	2206	2208	2212	S19	W44	.700		20.6	6	-B	3	C		23		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP73172	23	2223	2229+2	2240	N05	E46	.737	15904	27.4	17	-B							
HOLL	23	2223	2229	2242	N05	E46	.737	15904	27.4	19	1B	3	C		188		DE	
PALE	23	2228E	2231U	2238	N05	E46	.737	15904	27.4	10D	-B	3	C		67		DE	
GRP73173	23	2316+4	2321 2328	2333	N08	W46	.746	15887	20.5	17	-N						U	
HOLL	23	2316	2328	2340	N08	W46	.746	15887	20.5	24	-B	3	C		68		U F	
PALE	23	2320	2321	2325	N08	W46	.746	15887	20.5	5	-N	3	C		29		DE	
GRP73174	24	0037+2	0039+0	0048	N08	W46	.746	15887	20.6	11	-B				50	.7		
HOLL	24	0037	0039	0047	N08	W46	.746	15887	20.6	10	-B	3	C		47		FDE	
PALE	24	0039	0039	0047D	N08	W46	.746	15887	20.6	8D	-N	3	C		47		DE	
MANI	24	0039E	0039U	0048D	N08	W45	.735	15887	20.7	90	-B	2	C		50		F	
175 MANI	24	0112E	0114	0120	S14	W53	.793	15886	20.1	8D	-B	2	C		90			Y5
176 ABST	24	0549	0550	0554	N09	E52	.811	15904	28.1	5	-F		C	0550	105	1.8	DV	Y5
177 HTPR	24	0620E	0622	0630	S14	W59	.851	15886	19.8	10D	-F		C	0622	30	.6		Y5
178 ABST	24	0715E	0717	0724D	S17	E70	.933	15906	29.6	9D	? F		P	0717	140		EJ	Y5
	IMP.1 NO 1 HTPR																	
GRP73179	24	0718+3	0722+0	0755	N07	E49	.775	15904	28.0	37	-B				110	1.7	EJ	
ABST	24	0718	0722	0737D	N06	E49	.772	15904	28.0	19D	1B		P	0722	166	2.6	EJ	
HTPR	24	0721	0722	0755	N08	E49	.778	15904	28.0	34	-B		C	0722	80	1.2	E	
MANI	24	0724E	0724U	0728D	N07	E46	.743	15904	27.8	4D	-N	1	C		80			
180 HTPR	24	0905	0908	0919	N25	E90	1.001	15914	31.1	14	-F		C	0908	30			Y5
	24	1025	1031	NO FLARE PATROL														
	24	0321	0325	NO FLARE PATROL														
GRP73181	24	1316	1318	1331	N08	E34	.602	15904	27.1	15	-B				130	1.6	E	
RAMY	24	1316	1318	1331	N07	E33	.584	15904	27.0	15	-B	3	C		167			
HTPR	24	1319E		1324D	N09	E35	.620	15904	27.2	5D	-N		C	1319	90	1.1	E	
GRP73182	24	1441+1	1455+1 1509	1510	N08	W57	.855	15887	20.3	29	-B				90	1.7	FU	
HUAN	24	1441		1501	N08	W61	.888	15887	20.0	20	-N	1	C	1455	45	.9	E	
RAMY	24	1442	1455	1510	N08	W54	.828	15887	20.6	28	-B	3	C		87		F	
HOLL	24	1442	1456	1528	N09	W57	.857	15887	20.3	46	-B	3	C		126		U F	
HOLL	24	1442	1509	1528	N09	W57	.857	15887	20.3	46	-N	3	C		64		U F	
183 HOLL	24	1503	1512	1518	S19	W53	.797		20.7	15	-N	3	C		19			Y5
GRP73184	24	1553+2	1555+3	1608	S17	W54	.805		20.6	15	-N				40	.7	D	
RAMY	24	1531	1555	1609	S17	W52	.785		20.7	38	-B	3	C		36			
HUAN	24	1553		1600D	S14	W66	.907		19.7	70	-N	1	P	1555	25	.5	D	
HOLL	24	1555	1558	1606	S19	W54	.807		20.6	11	-N	3	C		38			
185 HOLL	24	1734	1735	1742	N05	E37	.627	15904	27.5	8	-N	3	C		36			Y5
186 HOLL	24	1740	1741	1746	N22	E73	.975	15914	30.2	6	-F	3	C		13			Y5
187 PALE	24	1748	1748	1753	S14	W64	.892	15886	19.9	5	-N	3	C		13		DE	Y5
188 PALE	24	1824	1824	1849	S14	W64	.892	15886	20.0	25	-N	3	C		14		DE	Y5
GRP73189	24	1859+5	1909+6	1918	S15	W59	.851	15886	20.4	19	-N				35	.7		
PALE	24	1859	1915	1919	S14	W65	.900	15886	19.9	20	-N	3	C		37		DE	
RAMY	24	1904	1909	1917	S17	W54	.805	15886	20.7	13	-B	3	C		33			
190 PALE	24	1921	1921	1929	S14	W65	.900	15886	19.9	8	-N	3	C		23		DE	Y5
191 RAMY	24	2027	2027	2033	S25	E60	.866	15906	29.4	6	-F	3	C		21			Y5
192 HOLL	24	2158	2200	2233	N08	W60	.880	15887	20.4	35	-B	3	C		51		U F	Y5
193 HOLL	24	2218	2219	2224	N05	E34	.587	15904	27.5	6	-N	3	C		26		F	Y5
194 CULG	24	2326	2333	2341	N08	W63	.903	15887	20.3	15	-F		C	2333	30	.7		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP73195	25	0030+7	0040+4	0123	N07	W64	.909	15887	20.2	53	-N				80	1.9	EJKU	
HOLL	25	0030	0040	0058D	N08	W60	.880	15887	20.5	28D	-B	3	C		76		UDE	
PEKG	25	0035	0042	0050D	N07	W67	.929	15887	20.0	15D	-F		C	0042	63		E	
CULG	25	0037	0044	0157	N08	W65	.917	15887	20.2	80	-B		C	0044	70		U	
MANI	25	0040E	0040U	0055	N07	W61	.886	15887	20.5	15D	-B	2	C		70		F	
VORO	25	0045E		0148	N07	W65	.916	15887	20.2	63D	1N		P	0046	125		EJK	
196 CULG	25	0055	0057	0102	N24	E78	.990	15914	30.9	7	-F		C	0057	30		T	Y5
GRP73197	25	0258+5	0304+2	0307D	S15	W68	.921	15886	20.0	9	-N				90		J	
CULG	25	0258	0306	0357	S14	W69	.927	15886	19.9	59	-N		C	0306	60			
VORO	25	0303	0304	0307	S16	W68	.921	15886	20.0	4	-B		C	0304	116		J	
198 VORO	25	0354	0355	0400D	S25	E55	.824	15906	29.3	6D	? F		P	0355	233	4.2	EG	Y5
	IMP.1 NO : MITK CULG																	
199 CULG	25	0425	0437	0452	N08	W65	.917	15887	20.3	27	-F		C	0437	40			Y5
200 CULG	25	0454	0456	0502	N07	E37	.635	15904	28.0	8	-N		C	0456	40	.5		Y5
201 CULG	25	0525	0534	0609	N08	W65	.917	15887	20.4	44	-F		C	0534	40			Y5
202 CULG	25	0650	0702	0731D	N09	W64	.912	15887	20.5	41D	-F		P	0702	30			Y5
203 CATA	25	0820E	0820	0835D	S19	W04	.220	15904	25.0	15D	-N	2	P	0820	67	.7		Y5
204 CATA	25	0820E	0820	0835D	N04	E30	.528		27.6	15D	-F	2	P	0820	84	1.0		Y5
205 KANZ	25	0927	0931	0942	S15	W46	.717	15906	21.9	15	-N	2					D	Y5
206 KANZ	25	0927	0931	0942	S24	E51	.785	15890	29.2	15	-B	2					G	Y5
GRP73207	25	1024+1	1024+6	1040	N07	W62	.894	15887	20.8	16	-N							
KANZ	25	1024	1024	1036	N08	W62	.896	15887	20.8	12	-F	2					D	
TELV	25	1024	1027	1045	N06	W64	.907	15887	20.6	21	-N	3					E	
CATA	25	1025	1030	1040	N07	W61	.886	15887	20.9	15	-N	1	C	1030	28	.6		
208 TELV	25	1124	1133	1200	N06	W68	.934	15887	20.4	36	-F	3					E	Y5
GRP73209	25	1150+6	1155+7	1206	N08	E32	.577	15904	27.9	16	-N						D	
CATA	25	1150	1155	1205	N08	E32	.577	15904	27.9	15	-N	1	C	1155	112	1.3		
LVOV	25	1150	1202	1210	N07	E33	.584	15904	28.0	20	-F		C	1202	100	1.1	D	
KANZ	25	1156	1159	1206	N08	E32	.577	15904	27.9	10	-B	1					D	
GRP73210	25	1410+2	1414+0	1434	S14	W50	.761	15890	21.8	24	-B				60	.9	F	
HOLL	25	1410	1414	1435	S14	W50	.761	15890	21.8	25	-B	3	C		68		F	
RAMY	25	1412	1414	1432	S14	W51	.772	15890	21.8	20	-B	3	C		58			
211 RAMY	25	1430	1432	1435	N08	W67	.930	15887	20.6	5	-B	3	C		20			Y5
212 HOLL	25	1548	1548	1554	N09	W70	.949	15887	20.4	6	-B	3	C		27			Y5
GRP73213	25	1633	1636 1650	1723	N09	W71	.954	15887	20.4	50	-B						FH	
HOLL	25	1633	1636	1723	N09	W71	.954	15887	20.4	50	-N	3	C		28		F H	
HOLL	25	1633	1650	1723	N09	W71	.954	15887	20.4	50	-B	3	C		87		F H	
GRP73214	25	1633	1636 1650	1657D	N09	E20	.430	15904	27.2	24	-B						FH	
HOLL	25	1633	1636	1657D	N09	E20	.430	15904	27.2	24D	-N	3	C		199		F H	
HOLL	25	1633	1650	1657D	N09	E20	.430	15904	27.2	24D	-B	*	C		87		F H	
215 HOLL	25	1749	1751	1759	N09	W72	.959	15887	20.3	10	-B	3	C		23		DE	Y5
216 HOLL	25	1802	1803	1808	N05	E23	.436	15904	27.5	6	-B	3	C		96		FDE	Y5
GRP73217	25	1802	1813+2 1821	1829D	N08	W71	.953	15887	20.4	27	1B						EH	
HOLL	25	1802	1815	1903	N10	W77	.980	15887	20.0	61	1B	*	C		254		DE H	
HOLL	25	1802	1813	1903	N10	W77	.980	15887	20.0	61	1B	*	C		235		DE H	
RAMY	25	1819E	1821U	1829	N07	W66	.922	15887	20.8	10D	-B	*	C		75			
218 HOLL	25	1842	1843	1846	N05	E23	.436	15904	27.5	4	-N	3	C		34		F	Y5
219 PALE	25	1934	1935	1937	N09	W69	.943	15887	20.6	3	-N	3	C		19		F	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP73220	25	1947+0	1948+1	1955	N09	W69	.943	15887	20.6	8	-B				30		F	
HOLL	25	1947	1948	1956	N09	W73	.963	15887	20.3	9	-B	3	C		44			
PALE	25	1947	1949	1955	N09	W69	.943	15887	20.6	8	-N	3	C		28		F	
RAMY	25	1947	1948	1954	N07	W67	.929	15887	20.8	7	-B	3	C		29			
221 RAMY	25	1948	1948	1953	N22	E61	.916	15914	30.4	5	-N	3	C		20			Y5
222 PALE	25	2018	2018	2025D	N09	W69	.943	15887	20.7	7D	-N	3	C		13		F	Y5
223 RAMY	25	2106	2106	2111D	S23	E45	.721	15906	29.3	5D	-N	2	C		42			Y5
GRP73224	25	2118+3	2119+4	2131D	S25	E46	.737	15906	29.3	13	-N				70	1.1	F	
HOLL	25	2118	2123	2124D	S24	E46	.734	15906	29.3	6D	-B	3	C		70		F	
CULG	25	2119E	2119E	2202	S29	E48	.769	15906	29.5	43D	-F		P	2119	90	1.3	B	
PALE	25	2121	2123	2131	S25	E45	.727	15906	29.3	10	-N	3	C		58		F	
	25	2220	2228	NO FLARE PATROL														
	25	0804	0820	NO FLARE PATROL														
	25	0835	0844	NO FLARE PATROL														
225 CULG	25	2230	2233	2240	N07	E27	.505	15904	28.0	10	-N		C	2233	30	.3		Y5
GRP73226	25	2240+1	2243+1	2253	N09	W74	.968	15887	20.4	13	-N				50			
CULG	25	2240	2244	2259	N10	W78	.983	15887	20.1	19	-N		C	2244	50			
PALE	25	2241	2243	2247	N09	W70	.949	15887	20.7	6	-N	3	C		47		DE	
227 CULG	25	2327	2329	2346	S18	W05	.210	15903	25.6	19	-F		C	2329	50	.5		Y5
228 PALE	26	0020E	0021	0024D	N09	W71	.954	15887	20.7	4D	-N	3	C		16		FDE	Y5
229 CULG	26	0036	0046	0117	S15	W80	.980	15886	20.0	41	-F		C	0046	30			Y5
GRP73230	26	0123>9	0138 0144+5	0212	N09	W72	.959	15887	20.7	49	1N				210		HJ	
PALE	26	0123	0149	0150D	N09	W72	.959	15887	20.7	27D	1B	3	C		235		FDE	
PALE	26	0123	0138	0150D	N09	W72	.959	15887	20.7	27D	1N	3	C		225		FDE	
CULG	26	0134	0144	0220	N09	W70	.949	15887	20.8	46	1B		C	0144	170		JFT	
VORO	26	0138E		0203	N10	W80	.989	15887	20.1	25D	1F		C	0142	197		CEH	
231 VORO	26	0221	0232	0245	N11	W90	1.000	15887	19.3	24	-N		C	0232	90		DHJK	Y5
GRP73232	26	0309+0	0310+1 0319	0325	N09	W80	.988	15887	20.1	16	-N						EHJ	
VORO	26	0309	0310	0325	N09	W80	.988	15887	20.1	16	-N		C	0310	72		EHJ	
CULG	26	0309	0311	0315	N09	W75	.972	15887	20.5	6	-B		C	0311	20		T	
MANI	26	0318E	0319	0326	N06	W81	.990	15887	20.1	8D	-N	3	C		25			
233 VORO	26	0348	0350	0353	N10	W79	.986	15887	20.2	5	-N		C	0350	108		EJ	Y5
234 CULG	26	0449	0500	0509	N09	W76	.976	15887	20.5	20	-N		C	0500	20		T	Y5
235 CULG	26	0501	0503	0521	S31	W05	.416	15899	25.8	20	-N		C	0503	50	.6		Y5
GRP73236	26	0510	0618	0735D	S37	E20	.577	15901	27.7	145	1N						FILU	
CULG	26	0510	0618U	0735D	S37	E18	.564	15901	27.6	145D	1N		C	0618	300	3.6	LIFU	
MANI	26	0603E	0603U	0614D	S36	E25	.603	15901	28.1	11D	-N	3	C		70		U	
CATA	26	0710E	0710	0715D	S38	E20	.588	15901	27.8	5D	1N	2	P	0710	196	2.7		
237 CULG	26	0550	0600	0617	N09	W76	.976	15887	20.5	27	-N		C	0600	20		T	Y5
GRP73238	26	0644	0650	0659	N08	W81	.991	15887	20.2	15	-N							
CULG	26	0644	0650	0659	N09	W78	.983	15887	20.4	15	-N		C	0650	30		T	
KAND	26	0646E		0648D	N07	W85	.997	15887	19.9	2D	-N		P					
239 MANI	26	0750E	0751	0756	N08	W85	.998	15887	20.0	6D	-B	3	C		70			Y5
	26	1010	1130	NO FLARE PATROL														
	26	0415	0421	NO FLARE PATROL														
	26	0423	0429	NO FLARE PATROL														
	26	0455	0459	NO FLARE PATROL														
	26	0629	0634	NO FLARE PATROL														
	26	0910	0920	NO FLARE PATROL														
	26	0930	1005	NO FLARE PATROL														

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.		
GRP73240	26	1150	1213+0	1247	N05	W78	.981	15887	20.6	57	2B							
RAMY	26	1150	1213	1243	N05	W78	.981	15887	20.6	53	2B	3	C				DE	
ZURI	26	1159E	1213	1251D	N06	W78	.981	15887	20.6	52D	2B		P	1213	240			
GRP73241	26	1354+9	1408+0 1504	1543	N07	W77	.978	15887	20.8	109	1B						E	
RAMY	26	1354	1408	1410D	N05	W79	.984	15887	20.7	16D	1B	3	V					
RAMY	26	1354	1408	1538	N09	W68	.937	15887	21.5	104	1B	3	C					
HOLL	26	1403	1408	1543	N06	W75	.970	15887	21.0	100	1B	3	C				DE	
HOLL	26	1403	1504	1543	N06	W75	.970	15887	21.0	100	-B	3	C				DE	
MCMA	26	1456E		1543D	N08	W81	.991	15887	20.5	47D	1B		P	1456				
GRP73242	26	1553+0	1553+1	1559	N07	E11	.303	15904	27.5	6	-N				40	.4		
RAMY	26	1553	1553	1559	N07	E11	.303	15904	27.5	6	-N	3	C		38			
HOLL	26	1553	1554	1558	N07	E11	.303	15904	27.5	5	-N	3	C		36			
GRP73243	26	1641+0	1641+1	1649	S30	W12	.435	15899	25.8	8	-N				25	.3		
HOLL	26	1641	1641	1648	S30	W13	.441	15899	25.7	7	-N	3	C		31			
RAMY	26	1641	1642	1650	S30	W12	.435	15899	25.8	9	-N	3	C		23			
244 RAMY	26	1653	1655	1703	N07	E03	.245	15904	26.9	10	-B	3	C		56			Y5
GRP73245	26	1721>9	1721 1809	1831	S30	W14	.448	15899	25.7	70	-N						F	
HOLL	26	1721	1721	1833	S31	W14	.462	15899	25.7	72	-B	3	C		58			
RAMY	26	1805	1809	1829	S30	W14	.448	15899	25.7	24	-N	3	C		29		F	
246 HOLL	26	1805	1806	1814	N05	E10	.267	15904	27.5	9	-N	3	C		34			Y5
GRP73247	26	1828+0	1829+0	1839	N07	W80	.988	15887	20.8	11	-B							
HOLL	26	1828	1829	1844	N06	W79	.984	15887	20.8	16	-B	3	C				DE	
RAMY	26	1828	1829	1834	N08	W82	.993	15887	20.6	6	-B	3	C					
248 PALE	26	1939	1947	1951	N09	W82	.993	15887	20.7	12	-N	3	C		14		DE	Y5
GRP73249	26	2002+1	2009+4	2026	N07	W81	.990	15887	20.8	24	-B							
HOLL	26	2002	2009	2023	N06	W80	.987	15887	20.8	21	-B	3	C					
PALE	26	2003	2013	2029	N09	W83	.995	15887	20.6	26	1B	3	C		93		DE F	
GRP73250	26	2135+6	2141+3	2200	N07	E13	.325	15904	27.9	25	-N				30	.3		
CULG	26	2135	2144	2205	N07	E13	.325	15904	27.9	30	-N		C	2144	20	.2		
HOLL	26	2140	2143	2200	N07	E13	.325	15904	27.9	20	-B	3	C		35			
PALE	26	2141	2141	2143	N06	E07	.252	15904	27.4	2	-N	3	C		32		DE	
251 CULG	26	2306	2313	2323	S28	E81	.981	15918	2.0	17	-F		C	2313	10			Y5
GRP73252	26	2355+1	2359+2	0019	N07	E12	.314	15904	27.9	24	-B				100	1.1	D	
PALE	27	0002E	0002U	0020D	N07	E12	.313	15904	27.9	18D	-B	3	C		108		F	
MITK	26	2355	2400	0022	N07	E11	.303	15904	27.8	27	-B		C	2400			D	
CULG	26	2355	2401	0018	N07	E12	.314	15904	27.9	23	-B		C	2401	60	.6		
VORO	26	2356	2359	0016	N08	E12	.327	15904	27.9	20	1N		C	2359	233	2.4	D	
MANI	26	2358E	2359	0020	N06	E10	.280	15904	27.7	22D	-B	3	C		100			
253 CULG	27	0007	0011	0021	S25	W52	.797	15895	23.1	14	-F		C	0011	60	1.0		Y5
254 VORO	27	0141	0142	0145	S27	W48	.764	15895	23.5	4	-F		C	0142	54	.8	D	Y5
255 TACH	27	0604E	0607	0610	N07	W90	1.000	15887	20.5	6D	? N		C	0607	265		CEH	Y5
	IMP.2 NO I CULG																	
256 CULG	27	0619	0625	0634	N23	E47	.817	15914	30.8	15	-N		P	0625	80	1.4		Y5
GRP73257	27	0711+5	0723+1	0731	S29	W21	.496	15899	25.7	20	-F				45	.5	E	
CULG	27	0711	0724	0731	S29	W21	.496	15899	25.7	20	-F		C	0724	40	.5		
HTPR	27	0716	0723	0730	S29	W22	.506	15899	25.7	14	-F		C	0723	50	.6	E	
258 HTPR	27	0902		0907D	S29	W23	.516	15899	25.7	5D	-F		C	0905	40	.5	E	Y5
259 HTPR	27	1040	1043	1052	S29	W24	.526	15899	25.6	12	-F		C	1043	30	.3		Y5
GRP73260	27	1122+3	1126+9	1156	S25	E79	.975	15918	3.4	34	1N						E	
ZURI	27	1122	1133	1156	S26	E81	.981	15918	2.5	34	2N		P	1133	330			
HTPR	27	1124	1131	1149	S25	E80	.978	15918	2.5	25	1N		C	1131	250		E	
CATA	27	1125E	1135	1135D	S25	E78	.971	15918	2.3	10D	1B	1	P	1135	84			
RAMY	27	1125	1126	1200	S25	E71	.939	15918	1.8	35	-B	3	C		34			

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	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
261 RAMY	27	1203	1204	1225	S30	W24	.535	15899	25.7	22	-N	3	C		36			Y5
262 HTPR	27	1220	1228	1250	N06	W10	.279	15904	26.8	30	-F		C	1228	20	.2		Y5
263 RAMY	27	1228	1231	1254	N33	E56	.916	15915	31.7	26	-N	3	C		39			Y5
GRP73264	27	1408+1	1410+0	1418	S21	E55	.819	15917	31.7	10	-F				40	.7		
ZURI	27	1408	1410	1422	S21	E56	.828	15917	31.8	14	-F		C	1410	50	.9		
RAMY	27	1409	1410	1413	S21	E54	.809	15917	31.6	4	-N	3	C		26			
265 RAMY	27	1503	1505	1512	N33	E55	.911	15915	31.8	9	-N	3	C		27			Y5
266 HUAN	27	1549E		1552D	S29	E27	.556	15906	29.7	3D	-F	1	P	1549	20	.2	D	Y5
267 HUAN	27	1605E		1614D	S13	E85	.994	15920	3.0	9D	-F	1	P	1608	15		D	Y5
268 RAMY	27	1617	1619	1625	N33	E54	.905	15915	31.7	8	-N	3	C		29			Y5
269 HUAN	27	1629E		1636D	S28	E58	.854		1.0	7D	-F	1	P	1629	15	.2	D	Y5
270 RAMY	27	1916	1918	1926	S26	E72	.945	15918	2.2	10	-N	3	C		25			Y5
	27	2002	2025	NO FLARE PATROL														
271 RAMY	27	2026E	2033U	2038	N30	E52	.883	15915	31.8	12D	-N	3	C		39			Y5
	27	2104	2122	NO FLARE PATROL														
	27	2131	2144	NO FLARE PATROL														
	27	2201	2208	NO FLARE PATROL														
	27	2213	2224	NO FLARE PATROL														
	27	0452	0500	NO FLARE PATROL														
	27	0558	0605	NO FLARE PATROL														
	27	0738	0745	NO FLARE PATROL														
	27	0915	0916	NO FLARE PATROL														
GRP73272	27	2300+1	2302+1	2307	S23	E78	.972	15918	3.8	7	-N				20		D	
CULG	27	2300	2302	2308	S24	E78	.972	15918	2.8	8	-N		C	2302	10			
VORO	27	2301	2303	2306	S22	E78	.972	15918	2.8	5	-N		C	2303	27		D	
GRP73273	27	2304+4	2315+4	2326	N22	E26	.622	15913	29.9	22	-F				50	.6	DJ	
CULG	27	2304	2319	2329	N21	E27	.621	15913	30.0	25	-F		C	2319	40	.5		
VORO	27	2308	2315	2323	N23	E25	.623	15913	29.8	15	-N		C	2315	72	.9	DJ	
274 VORO	27	2317	2325	2338	N04	W14	.303	15904	26.9	21	-F		C	2325	81	.8	DJ	Y5
275 HOLL	27	2357	2400	0004D	N07	E11	.303	15908	28.8	7D	-B	3	C		147		U F	Y5
276 ABST	28	0505	0507	0511	S22	E80	.979	15918	3.2	6	? N		C	0507	87		DJ	Y5
	IMP.1 NO 1 CULG MITK																	
277 ABST	28	0629	0634	0645	S22	E80	.979	15918	3.3	16	? F		C	0634	87		DJ	Y5
	IMP.1 NO 1 MITK																	
GRP73278	28	0641+3	0647+1	0702D	N37	E55	.923	15915	2.4	21	1N				220		E	
ABST	28	0641	0648	0701D	N38	E56	.931	15915	1.5	20D	1N		P	0648	262		E	
MITK	28	0644	0647	0702D	N37	E55	.923	15915	1.4	18D	1N		C	0647	180		E	
279 KHAR	28	0854E		0912D	N10	W90	1.000	15887	21.6	18D	-F		P	0854			DH	Y5
280 KHAR	28	0908E		0908D	S27	E72	.945	15918	2.8		-F		P	0908	80		D	Y5
	28	1035	1045	NO FLARE PATROL														
	28	1050	1100	NO FLARE PATROL														
281 TELV	28	1113	1117	1145	S23	E61	.872	15918	2.0	32	-F	2					U	Y5
	28	1145	1155	NO FLARE PATROL														
	28	1200	1210	NO FLARE PATROL														
	28	1220	1230	NO FLARE PATROL														
282 TELV	28	1243	1252	1315	S20	E68	.921	15918	2.6	32	-F	2					U	Y5
283 HUAN	28	1341		1345	S28	E68	.923	15918	2.7	4	-F	1	C				D	Y5
	28	1359	1418	NO FLARE PATROL														
	28	1421	1428	NO FLARE PATROL														

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	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
284 HUAN	28	1433	1433	1437	S37	E73	.953	15918	3.1	4	-N	1	C	1433	20		D	Y5
	28	1623	1658	NO FLARE PATROL														
	28	1735	1742	NO FLARE PATROL														
	28	1757	1916	NO FLARE PATROL														
	28	1945	1955	NO FLARE PATROL														
285 CULG	28	2328	2330	2335	S18	W44	.698	15903	25.7	7	-F		C	2330	30	.4	G	Y5
286 CULG	29	0055	0101	0117	S25	E63	.889	15918	2.8	22	-F		C	0101	80	1.5		Y5
287 CULG	29	0145	0154	0213	S28	E58	.854	15918	2.4	28	-F		C	0154	60	1.2		Y5
288 CULG	29	0153	0159	0210	N10	W30	.563	15904	26.8	17	-F		C	0159	10	.1		Y5
289 CULG	29	0216	0228	0255	S22	W03	.268	15906	28.9	39	-F		C	0228	60	.6	FI	Y5
GRP73290	29	0715+5	0725>9	0824	S29	E52	.806	15918	3.2	69	1B						EKUZ	
TELV	29	0715	0729	0830	S28	E53	.813	15918	2.3	75	2B	2		0729	570	9.7	U	
ISTA	29	0719	0727	0825	S30	E56	.842	15918	2.5	66	3B						K	
HTPR	29	0720	0726	0820	S28	E50	.786	15918	2.1	60	1B		C	0726	150	2.3	EU	
ATHN	29	0720	0725	0823	S28	E50	.786	15918	2.1	63	-N		C	0725	114	1.9		
KAND	29	0722E	0731	0806	S30	E55	.834	15918	2.4	44D	1N		C		228	3.9		
CATA	29	0730E	0735	0830D	S29	E53	.815	15918	2.3	60D	2B	2	P	0735	505	9.8		
MANI	29	0732	0733	0749D	S25	E52	.797	15918	2.2	17D	1B	3	V		200		Z U	
MONT	29	0811E	0811	0820D	S30	E50	.791	15918	2.1	9D	1N		C	0811	250		B	
GRP73291	29	0901+2	0903 0915	0928	S21	E57	.837	15918	3.7	27	-F						U	
KAND	29	0901	0903	0927	S22	E63	.887	15918	3.1	26	-F		C		73	1.6		
TELV	29	0903	0915	0928	S21	E51	.780	15918	2.2	25	-N	2					U	
292 CATA	29	0945E	0950	0950D	N09	W36	.632	15904	26.7	5D	-N	1	P	0950	56	.7		Y5
293 KAND	29	1022	1027	1102	S25	E60	.866	15918	2.9	40	-N		C		62	1.3		Y5
294 HTPR	29	1105	1106	1116	S22	E56	.829	15918	2.7	11	-F		C	1106	30	.4	E	Y5
295 KAND	29	1207	1213	1226	N09	W37	.644	15904	26.7	19	-N		C		73	1.0		Y5
296 HTPR	29	1256E		1303	N09	W35	.619	15904	26.9	7D	-N		C	1257	40	.5	E	Y5
	29	1332	1338	NO FLARE PATROL														
	29	1340	1348	NO FLARE PATROL														
297 HUAN	29	1402	1411	1415	S25	E57	.842	15918	2.9	13	-N	1	C	1411	20	.3	D	Y5
298 HOLL	29	1847	1850	1923	N32	E27	.725	15915	31.8	36	-N	3	C		50			Y5
299 HUAN	29	1915		1918	N10	W43	.719	15904	26.6	3	-F	1	C					Y5
GRP73300	29	1952+1	1956	2007	S26	E45	.731	15918	3.2	15	-N				20	.3		
HUAN	29	1952		2000D	S27	E45	.734	15918	2.2	8D	-F	1	P	1954	20	.3	D	
HOLL	29	1953	1956	2007	S25	E46	.738	15918	2.3	14	-B	3	C		19		F	
	29	2000	2005	NO FLARE PATROL														
	29	2009	2117	NO FLARE PATROL														
	29	2133	2136	NO FLARE PATROL														
	29	2142	2148	NO FLARE PATROL														
	29	2207	2214	NO FLARE PATROL														
	29	2220	2228	NO FLARE PATROL														
301 CULG	29	2228E	2228	2304	N23	E03	.498	15914	30.2	36D	-N		P	2228	40	.5	C	Y5
	29	2241	2246	NO FLARE PATROL														
302 CULG	29	2304	2315	2331D	S23	E23	.462	15917	31.7	27D	1N		P	2315	180	2.1	F	Y5
	29	2319	2328	NO FLARE PATROL														
	29	2331	2339	NO FLARE PATROL														
303 CULG	30	0033	0041U	0042D	N11	W43	.723	15904	26.8	9D	-B		P	0041	100	1.5		Y5
304 ABST	30	0522	0523	0525	S34	E45	.762	15918	2.6	3	-F		C	0523	96	1.5	DJV	Y5
305 ABST	30	0522	0524	0533	S27	E39	.672	15918	2.1	11	-N		C	0524	87	1.2	DJ	Y5

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	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.		
GRP73306	30	0607+3	0613+2	0629	S25	E47	.749	15918	3.8	22	-N						FJ	
ABST	30	0607	0615	0633D	S25	E47	.749	15918	2.8	26D	1F		P	0615	244	3.5	FJ	
KAND	30	0610	0613	0625	S26	E48	.761	15918	2.9	15	-N		C		94	1.5		
307 KAND	30	0618	0623	0639	S20	W44	.703	15911	27.0	21	-F		C		31	.5		Y5
308 KAND	30	0631	0641	0705	S26	E48	.761	15918	2.9	34	-N		C					Y5
GRP73309	30	0643		0748	N27	E90	1.001	15923	7.0	65	-N							
KAND	30	0643		0755	N27	E90	1.001	15923	6.0	72	-N		C					
ISTA	30	0710E		0741	N27	E90	1.001	15923	6.0	31D	-N							
GRP73310	30	0710	0734+5 0747	0758	N31	E21	.678	15915	31.9	48	1N						EJ	
PEKG	30	0710	0720	0757	N32	E21	.689	15915	31.9	47	1B		P	0720	273	189.0	E	
ABST	30	0732E	0734	0750D	N30	E21	.667	15915	31.9	18D	1N		P	0734	279	3.9	EJ	
KAND	30	0735	0739	0805	N31	E22	.684	15915	1.0	30	-N		C		104	1.5		
MANI	30	0736E	0738	0748	N32	E21	.689	15915	31.9	12D	-B	3	V		30			
ISTA	30	0738E		0801D	N31	E21	.678	15915	31.9	23D	1N						F	
CATA	30	0740E	0745	0745D	N30	E20	.661	15915	31.8	5D	1B	2	P	0745	196	2.5		
ATHN	30	0745	0747	0807	N30	E20	.661	15915	31.8	22	-N		C	0747	98	1.3		
ABST	30	0800E	0800	0802D	N31	E21	.678	15915	31.9	2D	1F		P	0800	201	2.8	BEJ	
GRP73311	30	0750+7	0756+5	0807	N27	E04	.557	15914	30.6	17	-N						EJ	
ISTA	30	0750E		0807	N26	E03	.542	15914	30.6	17D	1B	*					E	
KAND	30	0754	0756	0806	N27	E05	.559	15914	30.7	12	-N	*	C		73	.9		
ATHN	30	0757	0759	0809	N23	E02	.496	15914	30.5	12	-N	*	C	0759	49	.5		
PEKG	30	0757	0801	0804	N27	E04	.557	15914	30.6	7	1N	*	C	0801	168	102.0	E	
HTPR	30	0758E		0815	N27	E06	.561	15914	30.8	17D	-N	*	C	0758	70	.8	E	
ABST	30	0800E	0800	0802D	N27	E05	.559	15914	30.7	2D	1N	*	P	0800	262	3.2	BEJ	
GRP73312	30	0752+1	0753+1	0803	S25	E46	.738	15918	3.8	11	-N							
KAND	30	0752	0753	0803	S26	E48	.761	15918	2.9	11	-N		C					
ATHN	30	0753	0754	0802	S25	E45	.728	15918	2.7	9	-N		C	0754	21	.2		
GRP73313	30	0840+0	0843+1	0910	S20	W43	.692	15911	27.1	30	-F						EJ	
HTPR	30	0840	0844	0910	S20	W40	.656	15911	27.4	30	-F		C	0844	20	.3	E	
ABST	30	0840E	0843	0846D	S21	W47	.739	15911	26.8	6D	1F		P	0843	236	3.4	EJ	
GRP73314	30	0900+3	0902+3	0908	S27	E36	.640	15918	3.1	8	-N				50	.7	D	
KAND	30	0900	0902	0906	S28	E37	.656	15918	2.1	6	-F		C		42	.6		
HTPR	30	0902	0904	0911	S26	E35	.623	15918	2.0	9	-N		C	0904	50	.6		
PEKG	30	0903	0905	0908D	S27	E36	.640	15918	2.1	5D	-N		P	0905	63	41.0	D	
315 KAND	30	1003	1011	1021	S28	W90	.999	15895	23.7	18	-N		C					Y5
316 KAND	30	1053	1059	1105	S25	W90	.999	15895	23.7	12	-N		C					Y5
GRP73317	30	1106+2	1108+1	1124	N08	W49	.777	15904	26.8	18	-N							
ATHN	30	1106E	1108	1124	N08	W49	.777	15904	26.8	18D	-N		C	1108	66	1.0		
KAND	30	1108	1109	1113D	N09	W50	.791	15904	26.7	5D	-N		C		21	.3		
318 KAND	30	1234		1250	S34	W85	.991	15895	24.1	16	-F		C					Y5
	30	1243	1349	NO FLARE PATROL														
	30	0034	0040	NO FLARE PATROL														
	30	0041	0102	NO FLARE PATROL														
	30	0008	0010	NO FLARE PATROL														
319 KAND	30	1333	1340	1350	N27	E85	1.000	15923	5.9	17	-N		C					Y5
GRP73320	30	1441	1446 1459	1515	S27	E33	.607	15918	3.1	34	-B						FU	
HOLL	30	1441	1446	1515	S27	E33	.607	15918	2.1	34	-B	3	C		64		U F	
HOLL	30	1441	1459	1515	S27	E33	.607	15918	2.1	34	-N	3	C		57		U F	
321 HOLL	30	1514	1516	1532	N32	E16	.663	15915	31.8	18	-N	3	C		32		F	Y5
GRP73322	30	1601	1603	1617	N08	W50	.788	15904	26.9	16	-B						E	
HOLL	30	1601	1603	1617	N06	W44	.716	15904	27.4	16	-B	3	C		116			
HUAN	30	1604E		1617D	N11	W56	.852	15904	26.5	13D	-N	1	P	1604	40	.7	E	
GRP73323	30	1609	1618	1640	S25	E33	.595	15918	3.1	31	-B						U	
HOLL	30	1609	1618	1635	S25	E35	.618	15918	2.3	26	-B	3	C		62		U F	
HUAN	30	1621E		1644	S26	E31	.578	15918	2.0	23D	-F	1	P	1622	20	.2	D	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
GRP73324	30	1738+1	1739+1	1746	N26	00	.540	15914	30.7	8	-N				25	.3	DU
HOLL	30	1738	1739	1746	N26	E00	.540	15914	30.7	8	-B	3	C		30		U
HUAN	30	1739	1740	1746	N27	E00	.554	15914	30.7	7	-F	1	C	1740	20	.2	D
GRP73325	30	1742+0	1747 1757	1802	S25	E32	.583	15918	3.1	20	-N				40	.5	
HUAN	30	1742		1800D	S26	E31	.578	15918	2.1	18D	-N	1	P	1745	45	.5	E
HOLL	30	1742	1747	1751	S25	E34	.606	15918	2.3	9	-B	3	C		30		F
HOLL	30	1754	1757	1802	S25	E34	.606	15918	2.3	8	-B	3	C		33		
326 HOLL	30	1800	1801	1806	N28	E77	.990	15923	5.5	6	-F	3	C				Y5
327 HOLL	30	1835	1836	1845	S25	E33	.595	15918	2.2	10	-B	3	C		19		F Y5
328 HOLL	30	2010	2011	2021	N32	E13	.651	15915	31.8	11	-B	3	C		35		F Y5
329 HOLL	30	2133	2135	2208	S25	E32	.583	15918	2.3	35	-B	3	C		52		U Y5
GRP73330	30	2308+3	2313 2320+0	0017	S24	E36	.624	15918	3.7	69	1N				370	4.8	FUZ
CULG	30	2308	2320	0027	S23	E35	.608	15918	2.6	79	2B		C	2320	400	5.2	
VORO	30	2310E		0021	S25	E40	.674	15918	3.0	71D	1F		P	2415	269	3.6	E
HOLL	30	2311	2313	0012	S25	E31	.571	15918	2.3	61	1B	3	C		399		U F
MANI	30	2320E	2320U	2350	S24	E37	.636	15918	2.7	30D	1B	3	C		350		F Z
331 CULG	30 IMP.1 NO : HOLL	2325U	2446U	0647	S26	W24	.499	15906	29.2	442D	?N		P	2446	250	2.9	S Y5
GRP73332	30	2334+1	2338+1	2353	N26	W02	.541	15914	30.8	19	-B				120	1.4	F
CULG	30	2334	2338	0000	N27	W02	.555	15914	30.8	26	-B		C	2338	40	.5	F
HOLL	30	2335	2338	2339D	N26	W02	.541	15914	30.8	4D	-B	3	V		145		F
MANI	30	2337E	2339	2345	N26	W05	.545	15914	30.6	8D	-B	3	C		120		F
333 VORO	31	0015	0017	0021	N27	E77	.989	15923	5.8	6	-F		C	0017	27		D Y5
GRP73334	31	0033>9	0043+6	0059	S23	E36	.620	15918	3.7	26	-N				70	.9	J
VORO	31	0033	0043	0055	S21	E37	.623	15918	2.8	22	1N		C	0043	260	3.3	EJ
CULG	31	0034	0043	0102	S23	E36	.620	15918	2.7	28	-N		C	0043	70	.9	
MANI	31	0043	0045	0048D	S24	E37	.636	15918	2.8	5D	-N	3	C		80		F
VORO	31	0048	0049	0055	S25	E26	.514	15918	2.0	7	-B		C	0049	45	.5	D
335 CULG	31	0205	0211	0243	S21	W58	.846	15911	26.7	38	-B		C	0211	100	1.8	Y5
336 CULG	31	0257	0331U	0400	S38	E40	.742	15918	3.1	63	1N		C	0331	150	2.2	UL Y5
337 ABST	31	0509	0511	0517	S15	W15	.291	15916	30.1	8	-F		C	0511	87	.9	DJ Y5
338 ABST	31	0537	0543	0553	N34	E10	.665	15915	1.0	16	-F		C	0543	148	2.0	FJ Y5
GRP73339	31	0554+2	0556+6 0614	0630	S25	E28	.537	15918	3.3	36	-N				80	1.0	J
ABST	31	0554	0556	0629D	S26	E26	.522	15918	2.2	35D	1N		P	0556	227	2.7	EJ
MANI	31	0554	0558	0630	S25	E27	.525	15918	2.3	36	-N	3	C		50		F
ABST	31	0555	0558	0640	S24	E28	.530	15918	2.3	45	-N		C	0558	87	1.0	DJ
MANI	31	0556	0559	0602	S24	E34	.601	15918	2.8	6	-N	3	V		50		F
ABST	31	0558	0602	0621	S30	E32	.617	15918	2.6	23	-F		P	0602	96	1.2	DJ
ABST	31	0608	0614	0623	S27	E23	.498	15918	2.0	15	-N		C	0614	175	2.0	EJ
340 ABST	31	0657	0659	0708	S28	E23	.508	15918	2.0	11	-N		C	0659	70	.8	DJ Y5
341 ABST	31	0730	0732	0749	S24	E30	.554	15918	2.6	19	-F		C	0732	96	1.2	DJ Y5
GRP73342	31	0751+0	0754+1	0813	S16	E48	.742	15920	4.9	22	-F						FJ
KANZ	31	0751E	0755	0811	S16	E48	.742	15920	3.9	20D	-F	2					
ABST	31	0751	0754	0815	S17	E49	.754	15920	4.0	24	1F		C	0754	210	3.3	FJ
GRP73343	31	0830+3	0834	0846D	S26	E22	.478	15918	3.0	16	-B						
KANZ	31	0830	0834	0846	S26	E21	.468	15918	1.9	16	-B	2					E
ISTA	31	0833		1014	S27	E23	.498	15918	2.1	101	-B						F
344 KANZ	31	0834	0834	0842	S16	E47	.730	15920	3.9	8	-F	2					Y5

Hα SOLAR FLARES

MARCH 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.		
GRP73345	31	0931+2	0934+3	0956	S25	E24	.491	15918	3.2	25	-N				90	1.0	EJK	
ABST	31	0921	0927	0952	S30	E22	.518	15918	2.0	31	-F		C	0927	131	1.6	EJ	
KANZ	31	0931		1025D	S25	E25	.502	15918	2.3	54D	-B	*					FKD	
ABST	31	0932E	0934	0940	S22	E26	.491	15918	2.3	8D	-N	*	P	0934	87	1.0	DJ	
ISTA	31	0933		0938	S20	E29	.517	15918	2.6	5	-F	*					E	
ABST	31	0934	0937	0942	S27	E20	.468	15918	1.9	8	-N	*	C	0937	87	1.0	DJ	
ABST	31	0955	0957	1000D	S27	E20	.468	15918	1.9	5D	-N	*	P	0957	131	1.5	EJ	
GRP73346	31	0956+1	0957+1	1012	S25	E35	.618	15918	4.0	16	-N						JV	
ABST	31	0956	0957	1000D	S26	E32	.590	15918	2.8	4D	-N	*	P	0957	87	1.1	DJV	
ABST	31	0956	0958	1000D	S24	E35	.613	15918	3.0	4D	-F	*	P	0958	114	1.5	FJ	
ISTA	31	0957		1012	S25	E37	.641	15918	3.2	15	-B	*					D	
	31	1035	1116	NO FLARE PATROL														
347 KANZ	31	1116E	1131	1147D	S22	E22	.442	15918	2.1	31D	-B	2					UF	Y5
	31	1147	1203	NO FLARE PATROL														
	31	1250	1310	NO FLARE PATROL														
GRP73348	31	1310	1311	1433	S19	E24	.445	15918	3.3	83	1B						F	
RAMY	31	1310	1311	1316	S16	E26	.456	15918	2.5	6	-B	2	C		121			
RAMY	31	1310E	1311	1433	S23	E22	.450	15918	2.2	83D	1B	2	C		246		F	
349 HOLL	31	1335E	1335U	1407	S32	E32	.631	15918	3.0	32D	-N	3	C		90		F	Y5
GRP73350	31	1523+1	1524+0	1537	S23	E22	.450	15918	3.3	14	-B				50	.6		
RAMY	31	1523	1524	1545	S23	E22	.450	15918	2.3	22	-B	2	C		65			
HOLL	31	1524	1524	1528	S24	E23	.471	15918	2.4	4	-B	3	C		30			
GRP73351	31	1524+0	1525+0	1540	N09	W60	.881	15904	27.1	16	-B				70	1.5		
RAMY	31	1524	1525	1546	N08	W54	.827	15904	27.6	22	-B	2	C		87			
HOLL	31	1524	1525	1533	N10	W67	.932	15904	26.6	9	-B	3	C		45			
352 RAMY	31	1525	1528	1555	N26	W11	.564	15914	30.8	30	-B	3	C		71			Y5
353 RAMY	31	1549	1550	1611	N33	E04	.640	15915	1.0	22	-B	3	C		60			Y5
354 HOLL	31	1559	1559	1624	S17	E43	.685	15920	3.9	25	-N	3	C		19			Y5
355 RAMY	31	1602	1603	1636	N26	W12	.568	15914	30.8	34	-B	3	C		75			Y5
GRP73356	31	1652+4	1656	1702	N26	W13	.573	15914	30.7	10	-F						E	
HUAN	31	1652		1700	N27	W14	.591	15914	30.7	8	-F	1	C				E	
RAMY	31	1656	1656	1703	N26	W12	.568	15914	30.8	7	-N	3	C		57			
GRP73357	31	1656+4	1706+2	1755	S24	E21	.448	15918	3.3	59	-B				180	2.0	FU	
RAMY	31	1656	1706	1806	S23	E21	.439	15918	2.3	70	-B	3	C		194		U F	
HOLL	31	1700	1708	1743	S25	E21	.458	15918	2.3	43	-B	3	C		171		U U	
358 RAMY	31	1829	1831	1848	S15	E43	.682	15920	4.0	19	-N	3	C		37			Y5
GRP73359	31	1945+5	1950 2000	2032	S24	E20	.437	15918	3.3	47	-N						U	
PALE	31	1945	1950	2027	S24	E21	.448	15918	2.4	42	-N	3	C		85		DE	
RAMY	31	1950	2000	2037D	S24	E20	.437	15918	2.3	47D	-B	3	C		60		U F	
360 PALE	31	2034	2039	2045	S24	E21	.448	15918	2.4	11	-N	3	C		42		F	Y5
GRP73361	31	2203+1	2205+2	2218	S26	E25	.511	15918	3.8	15	-N				120	1.4	EH	
BIGB	31	2203	2207	2221	S26	E25	.511	15918	2.8	18	-N		C	2207	100	1.0		
VORO	31	2204	2205	2215	S26	E26	.522	15918	2.9	11	-N		C	2205	152	1.8	EH	
GRP73362	31	2304+7	2308+5	2324D	S20	E37	.620	15920	4.7	20	1N						FU	
BIGB	31	2304	2308	2324	S15	E43	.682	15920	4.2	20	1N		C	2308	150	2.0		
HOLL	31	2311	2313	0012	S25	E31	.572	15920	3.3	61	1B	3	C		399		U F	
GRP73363	31	2315+3	2321+1	0002	S24	E19	.426	15918	3.4	47	2B				630	7.0	FLU	
VORO	31	2315	2321	2351	S24	E18	.415	15918	2.3	36	2N		C	2321	556	6.2	FL	
PALE	31	2317E	2322U	0013D	S24	E19	.426	15918	2.4	56D	2B	3	C		701		DE	
BIGB	31	2318	2321	2321D	S25	E16	.406	15918	2.2	3D	1B		P	2321	450	4.8		
HOLL	31	2318	2321	2325D	S24	E19	.426	15918	2.4	7D	2B	3	V		783		U F	
MANI	31	2320E	2322	2332D	S24	E19	.426	15918	2.4	12D	2B	3	V		650		F	
364 HOLL	31	2335	2338	0001	N26	W02	.540	15915	31.8	26	-B	3	C		145		F	Y5
365 VORO	31	2349	2351	2359	S14	W25	.433	15916	30.1	10	-B		C	2351	99	1.1	EHG	Y5

Hα SOLAR FLARES

MARCH 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

DAILY FLARE INDICES

Includes all Flares

MARCH 1979

Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
790301	894.37	23.7	790311	109.04	23.9	790321	108.08	18.6
790302	122.34	24.0	790312	66.88	24.0	790322	201.77	24.0
790303	116.29	23.0	790313	57.75	24.0	790323	111.09	21.7
790304	34.89	23.4	790314	26.54	19.2	790324	42.45	23.8
790305	380.91	23.6	790315	167.89	23.8	790325	78.11	23.5
790306	107.56	24.0	790316	217.66	24.0	790326	211.98	21.6
790307	136.76	24.0	790317	21.13	22.8	790327	47.78	22.4
790308	110.71	23.4	790318	175.77	21.9	790328	34.22	20.6
790309	74.73	23.8	790319	154.39	23.4	790329	68.61	21.8
790310	52.53	22.1	790320	150.31	23.4	790330	137.45	22.4
						790331	395.68	22.7

When no Flare Index is given, it is 0 for that day.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

MARCH 1979

Problems with a new computer graphics package prevented chart from being generated in time for publication.

Observatories included in total patrol:

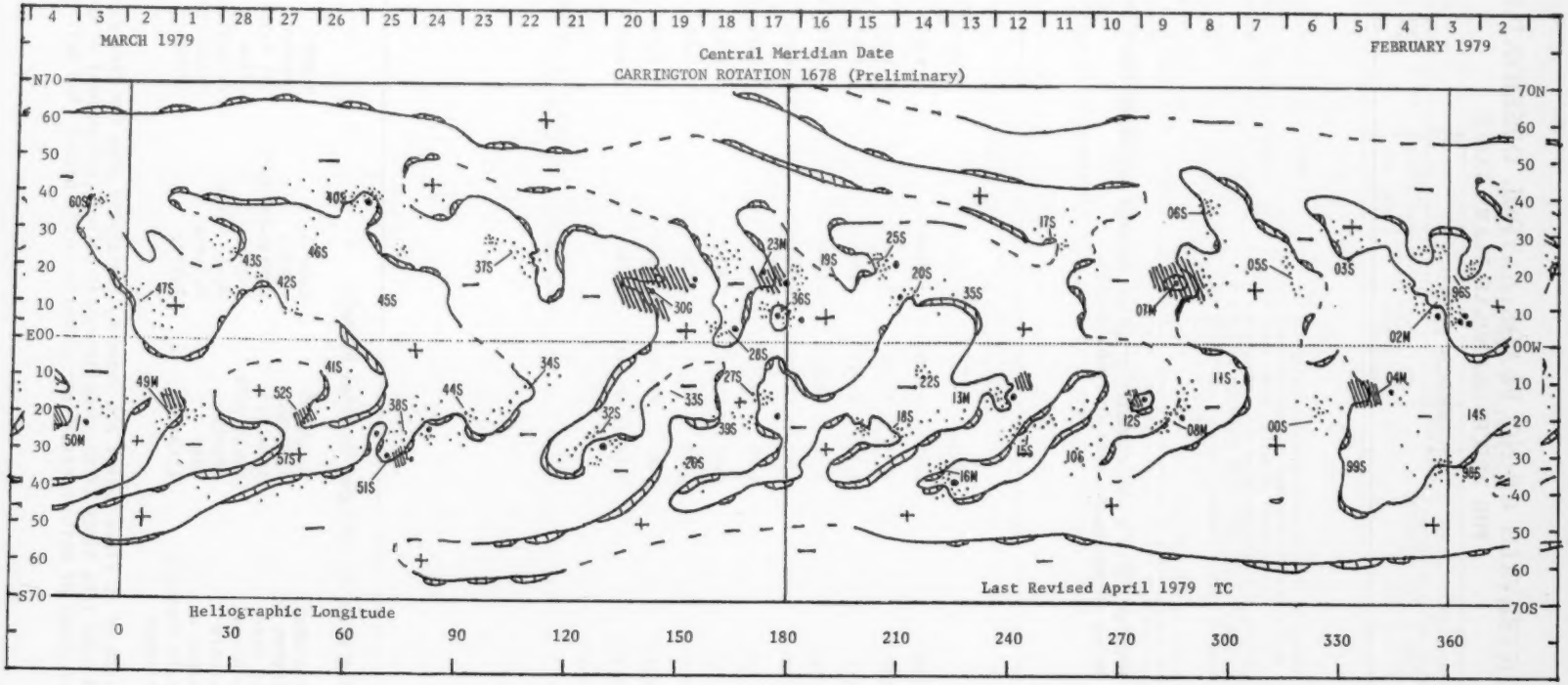
Abastumani	Huancayo	Lvov	Ramey
Athenes	Istanboul	Manila	Tashkent
Big Bear	Kandilli	McMath-Hulbert	Tel Aviv
Bucharest	Kanzelhohe	Mitaka	Upice
Catania	Kharkov	Monte Mario	Voroshilov
Culgoora	Kiev	Palehua	Wendelstein
Haute Provence	Locarno	Peking	Zurich
Holloman			

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

ABBREVIATED CALENDAR RECORD

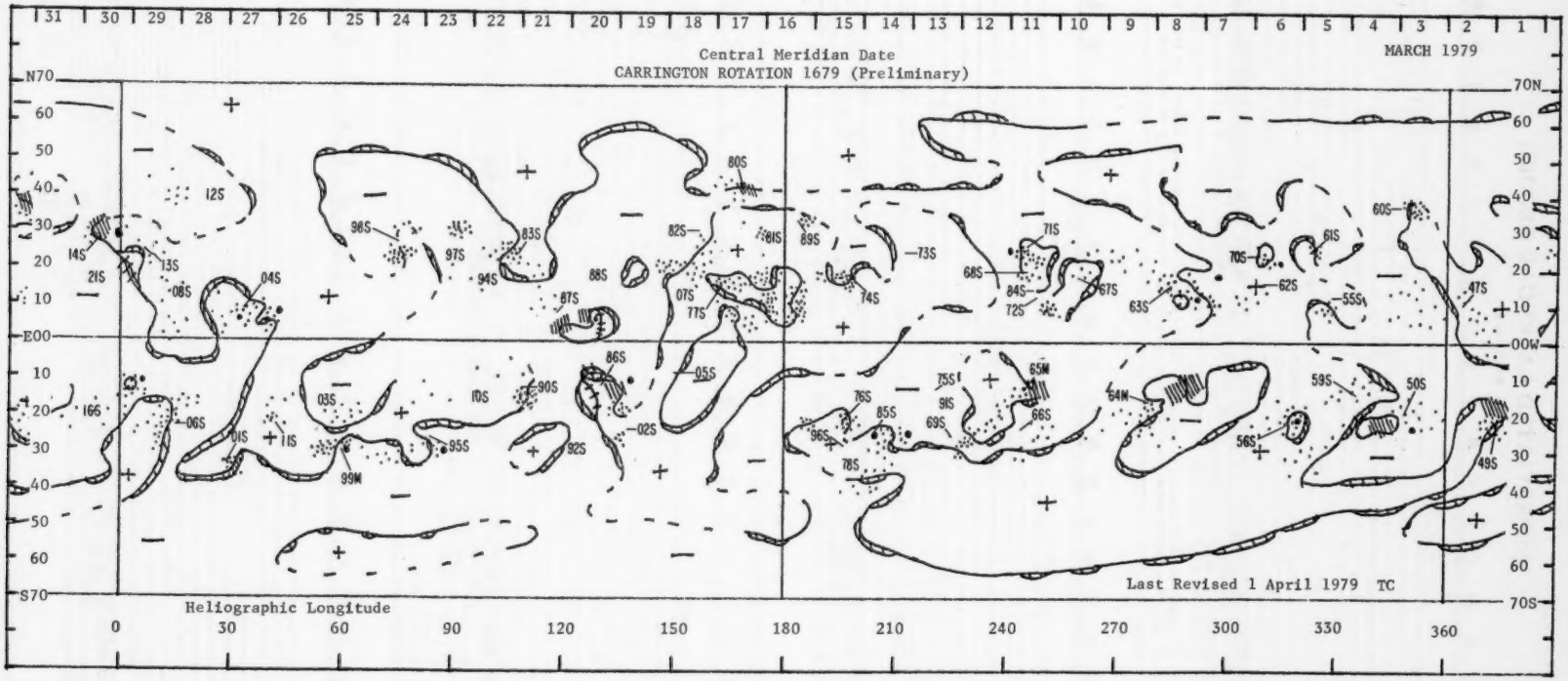
Hα SYNOPTIC CHART

FEBRUARY - MARCH 1979



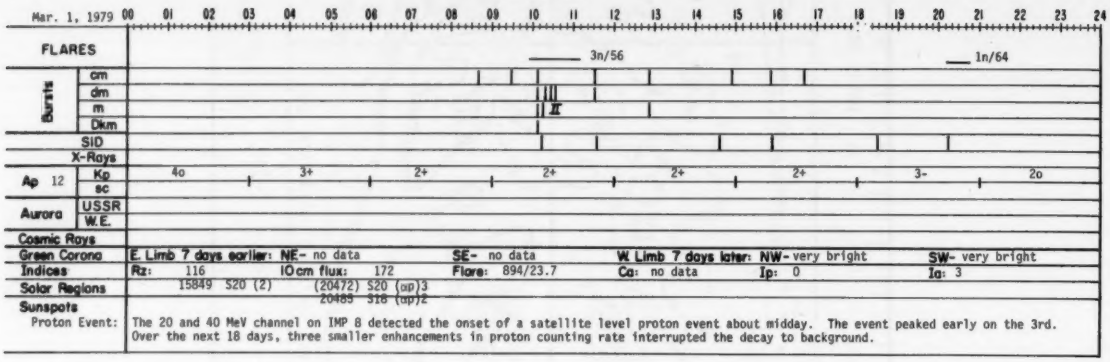
ABBREVIATED CALENDAR RECORD

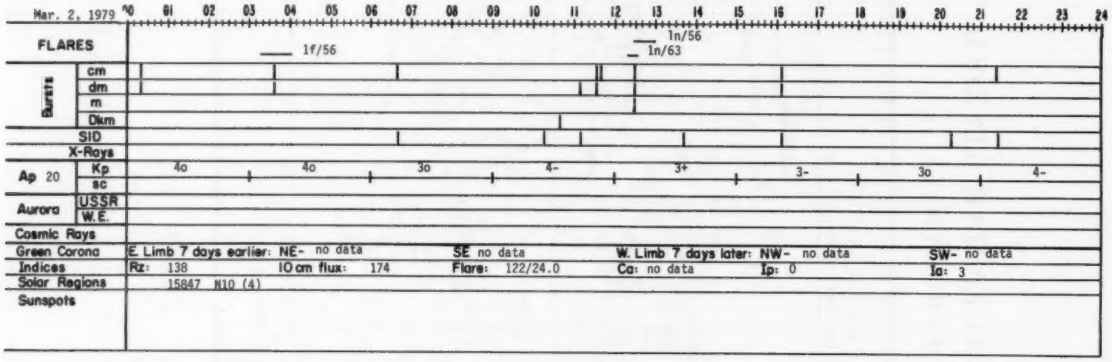
Hα SYNOPTIC CHART

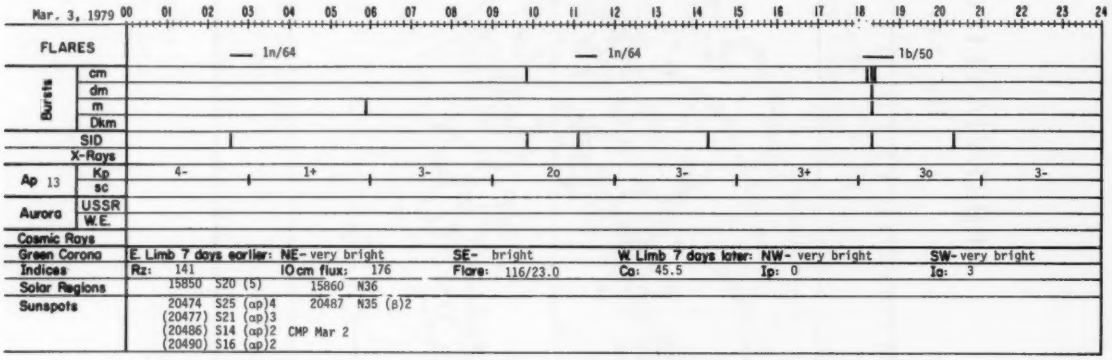


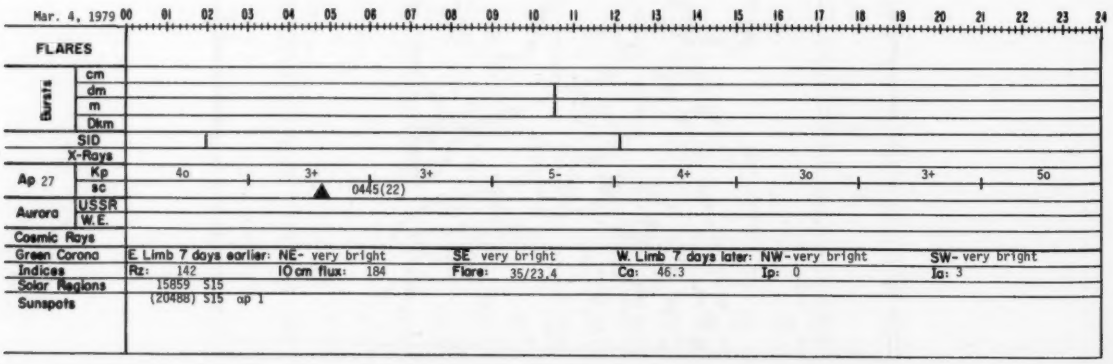
ABBREVIATED CALENDAR RECORD

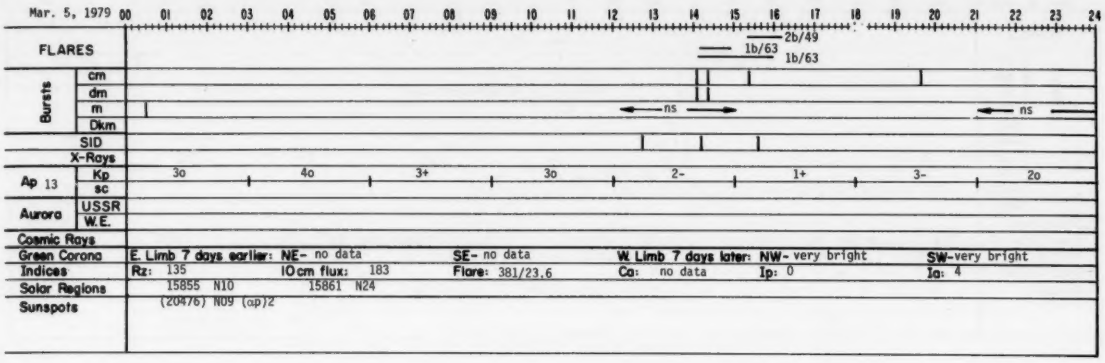
MARCH 1979

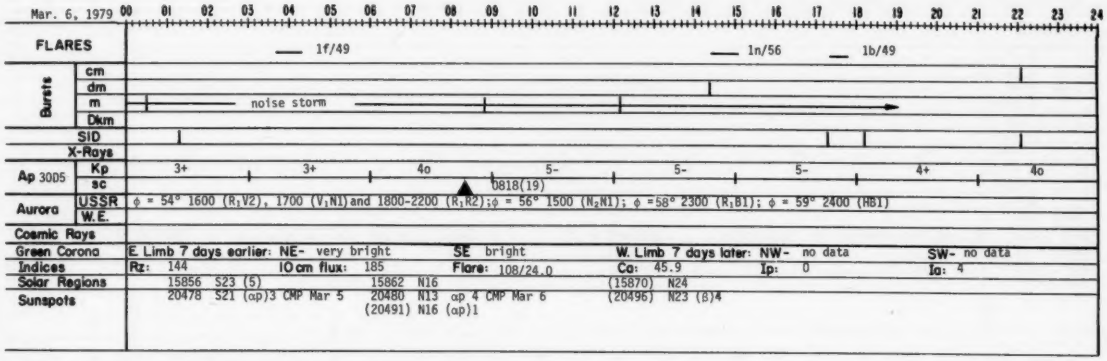

Mar. 1, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
3n/56
1n/64
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 12
Kp
sc
4o 3+ 2+ 2+ 2+ 2+ 3- 2o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- very bright SW- very bright
Indices
Rz: 116 10 cm flux: 172 Flare: 894/23.7 Ca: no data Ip: 0 Ia: 3
Solar Regions
15849 S20 (2) (20472) S20 (αp)3
20489 S16 (αp)2
Sunspots
Proton Event:
The 20 and 40 MeV channel on IMP 8 detected the onset of a satellite level proton event about midday. The event peaked early on the 3rd.
Over the next 18 days, three smaller enhancements in proton counting rate interrupted the decay to background.

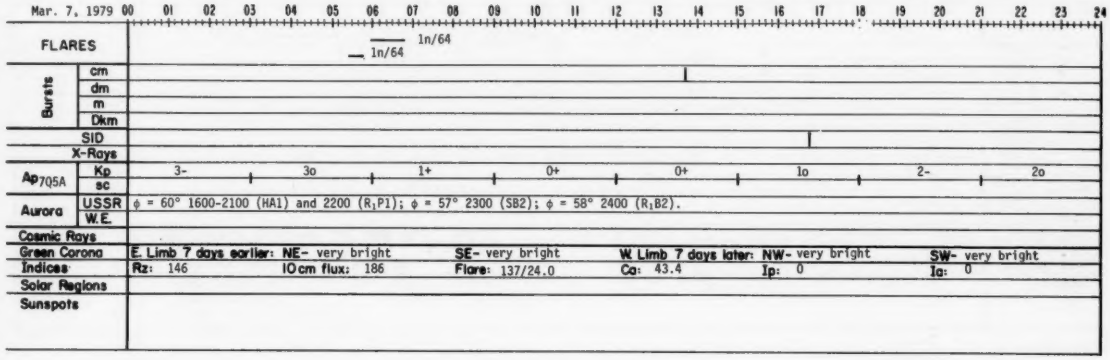


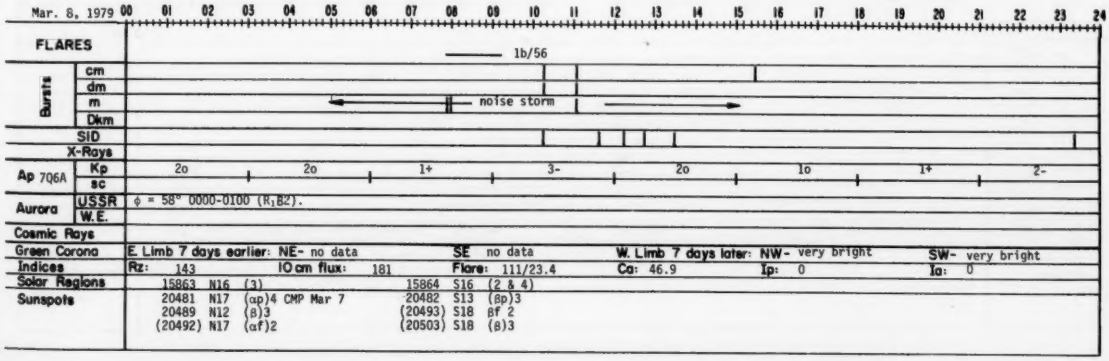


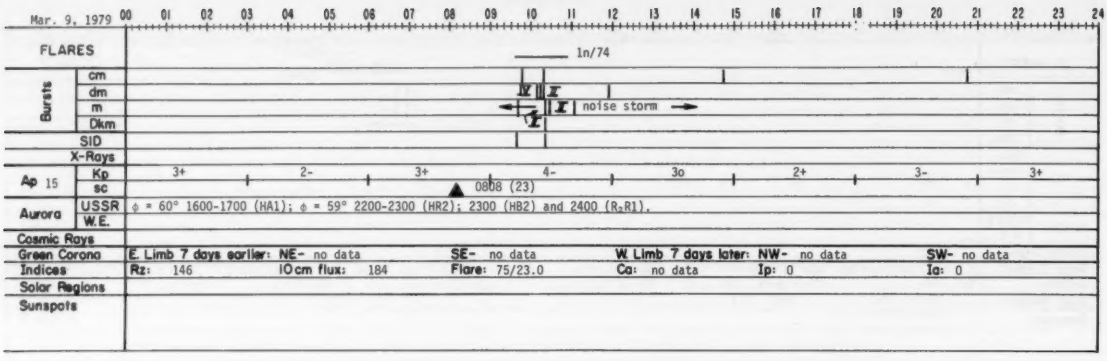


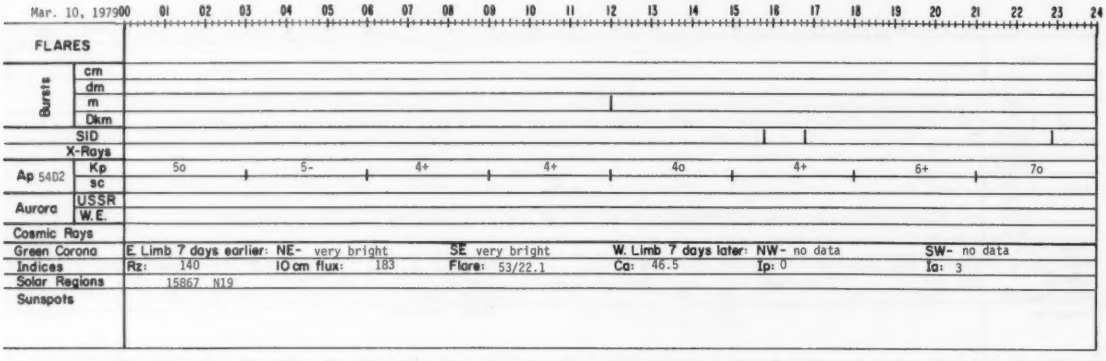

Mar. 5, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
2b/49
1b/63
1b/63
Bursts
cm
dm
m
Dkm
ns
ns
SID
X-Rays
Ap 13
Kp
3o 4o 3+ 3o 2- 1+ 3- 2o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- very bright SW-very bright
Indices
Rz: 135 IOcm flux: 183 Flare: 381/23.6 Ca: no data Ip: 0 Ia: 4
Solar Regions
15855 N10 15861 N24
Sunspots
(20476) N09 (αp)2

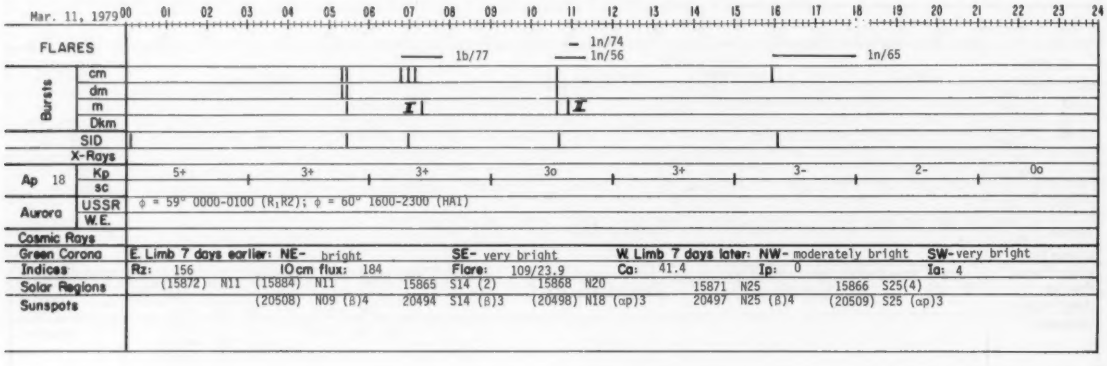

Mar. 6, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/49
1n/56
1b/49
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 30D5
Kp
3+ 3+ 4o 5- 5- 5- 4+ 4o
sc
0818(19)
Aurora
USSR
ϕ = 54° 1600 (R1V2), 1700 (V1N1)and 1800-2200 (R1R2);ϕ = 56° 1500 (N2N1); ϕ =58° 2300 (R1B1); ϕ = 59° 2400 (HB1)
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- very bright SE bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 144 IOcm flux: 185 Flare: 108/24.0 Ca: 45.9 Ip: 0 Ia: 4
Solar Regions
15856 S23 (5) 15862 N16 (15870) N24
Sunspots
20478 S21 (αp)3 CMP Mar 5 20480 N13 αp 4 CMP Mar 6 (20496) N23 (β)4
(20491) N16 (αp)1

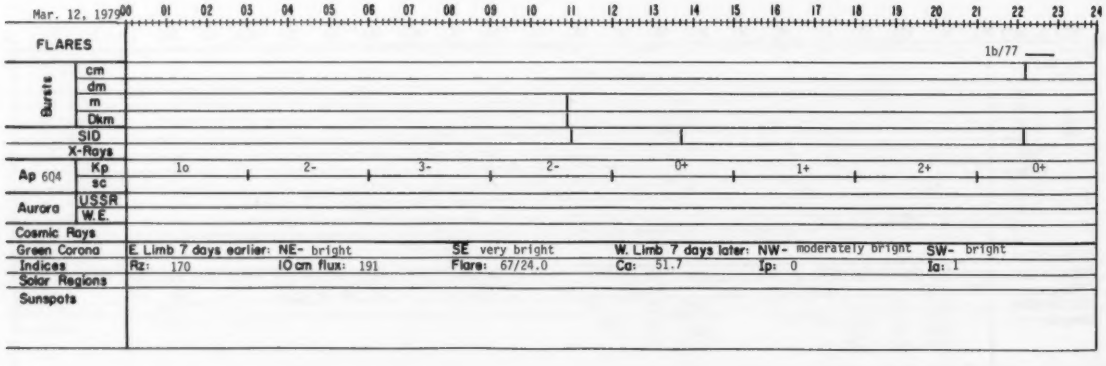

Mar. 7, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/64
1n/64
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 7Q5A
Kp
3- 3o 1+ 0+ 0+ 1o 2- 2o
sc
Aurora
USSR
ϕ = 60° 1600-2100 (HA1) and 2200 (R1P1); ϕ = 57° 2300 (SB2); ϕ = 58° 2400 (R1B2).
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- very bright SE- very bright W. Limb 7 days later: NW- very bright SW- very bright
Indices
Rz: 146 IOcm flux: 186 Flare: 137/24.0 Ca: 43.4 Ip: 0 Ia: 0
Solar Regions
Sunspots

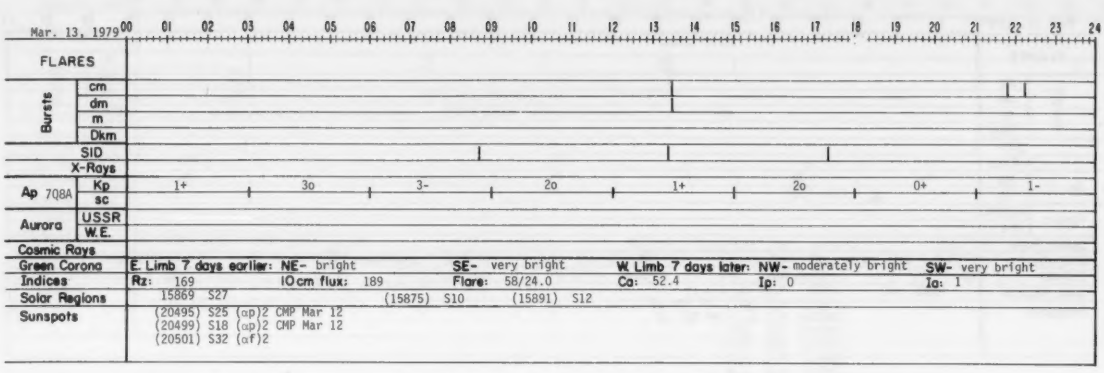

Mar. 8, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/56
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 7Q6A
Kp
2o 2o 1+ 3- 2o 1o 1+ 2-
sc
Aurora
USSR
ϕ = 58° 0000-0100 (R1B2).
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- very bright SW- very bright
Indices
Rz: 143 IOcm flux: 181 Flare: 111/23.4 Ca: 46.9 Ip: 0 Ia: 0
Solar Regions
15863 N16 (3) 15864 S16 (2 & 4)
Sunspots
20481 N17 (αp)4 CMP Mar 7 20482 S13 (βp)3
20489 N12 (β)3 (20493) S18 βf 2
(20492) N17 (αf)2 (20503) S18 (β)3

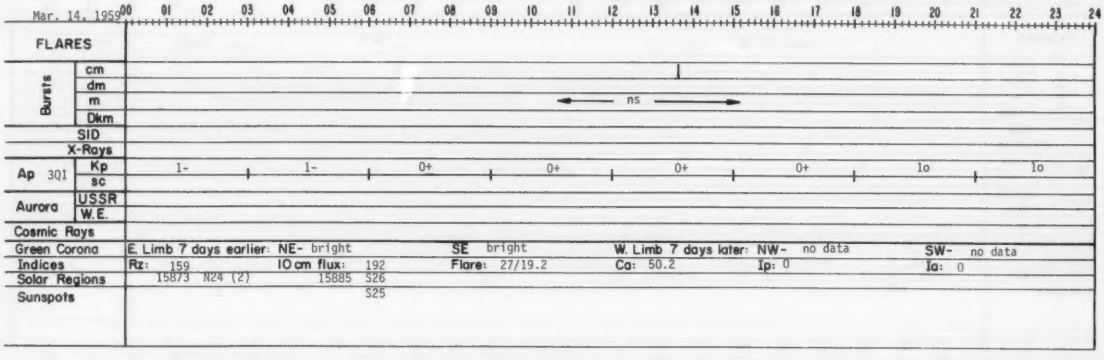

Mar. 9, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/74
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 15
Kp
3+ 2- 3+ 4- 3o 2+ 3- 3+
sc
0808 (23)
Aurora
USSR
W.E.
ϕ = 60° 1600-1700 (HA1); ϕ = 59° 2200-2300 (HR2); 2300 (HB2) and 2400 (R₂R1).
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE- no data
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 146
10 cm flux: 184
Flare: 75/23.0
Ca: no data
Ip: 0
Ia: 0
Solar Regions
Sunspots

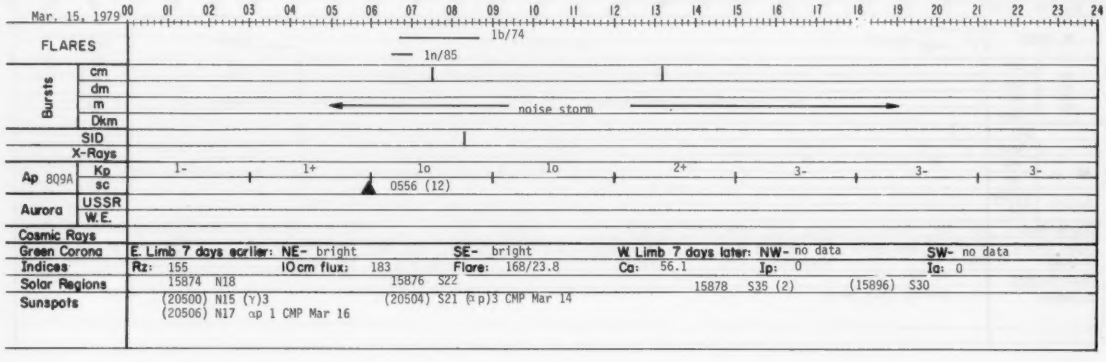

Mar. 10, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 5402
Kp
5o 5- 4+ 4+ 4o 4+ 6+ 7o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- very bright
SE very bright
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 140
10 cm flux: 183
Flare: 53/22.1
Ca: 46.5
Ip: 0
Ia: 3
Solar Regions
15867 N19
Sunspots

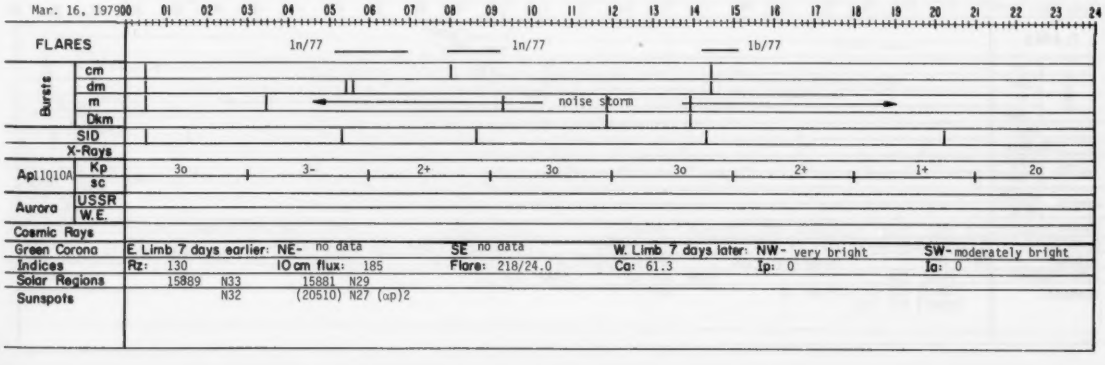

Mar. 11, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/74
1b/77
1n/56
1n/65
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 18
Kp
5+ 3+ 3+ 3o 3+ 3- 2- 0o
sc
Aurora
USSR
W.E.
ϕ = 59° 0000-0100 (R₁R2); ϕ = 60° 1600-2300 (HA1)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright
SE- very bright
W. Limb 7 days later: NW- moderately bright
SW- very bright
Indices
Rz: 156
10 cm flux: 184
Flare: 109/23.9
Ca: 41.4
Ip: 0
Ia: 4
Solar Regions
(15872) N11 (15884) N11 15865 S14 (2) 15868 N20 15871 N25 15866 S25(4)
Sunspots
(20508) N09 (B)4 20494 S14 (B)3 (20498) N18 (αp)3 20497 N25 (B)4 (20509) S25 (αp)3

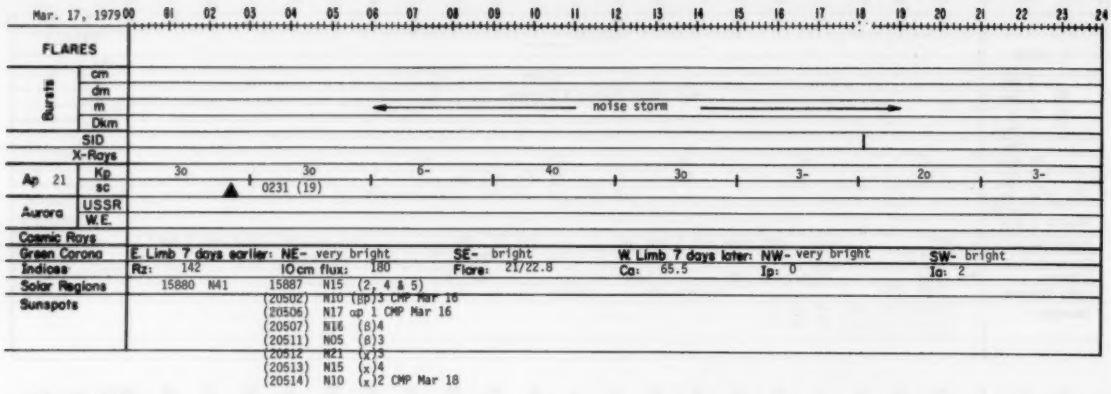

Mar. 12, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/77
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 604
Kp
1o 2- 3- 2- 0+ 1+ 2+ 0+
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright
SE very bright
W. Limb 7 days later: NW- moderately bright
SW- bright
Indices
Rz: 170
10 cm flux: 191
Flare: 67/24.0
Ca: 51.7
Ip: 0
Ia: 1
Solar Regions
Sunspots

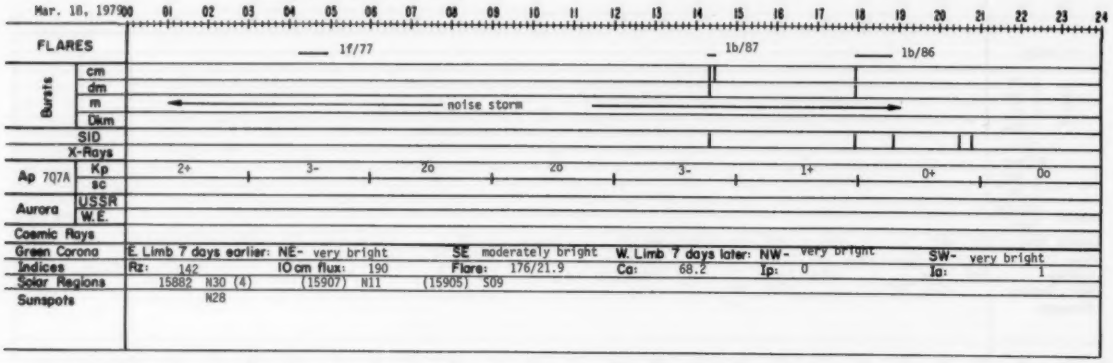

Mar. 13, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 7Q8A
Kp
sc
1+ 3o 3- 2o 1+ 2o 0+ 1-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE- very bright W. Limb 7 days later: NW- moderately bright SW- very bright
Indices
Rz: 169 10cm flux: 189 Flare: 58/24.0 Ca: 52.4 Ip: 0 Ia: 1
Solar Regions
15869 S27 (15875) S10 (15891) S12
Sunspots
(20495) S25 (ap)2 CMP Mar 12
(20499) S18 (ap)2 CMP Mar 12
(20501) S32 (af)2

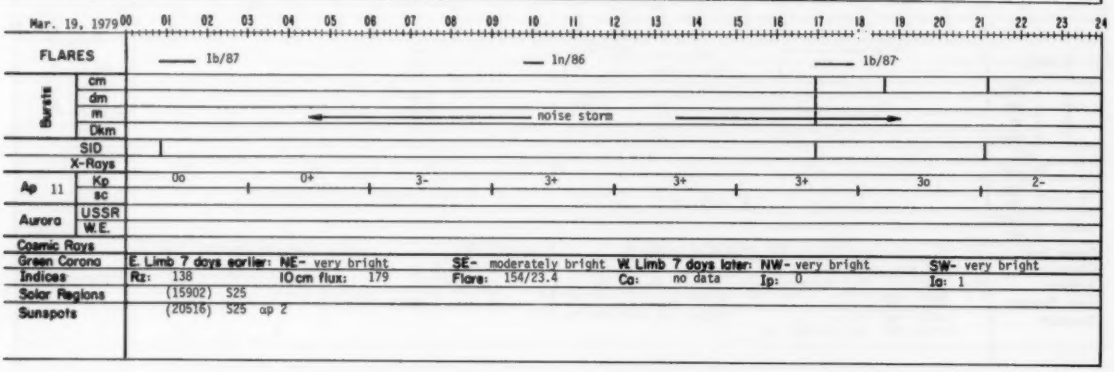

Mar. 14, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
ns
SID
X-Rays
Ap 3Q1
Kp
sc
1- 1- 0+ 0+ 0+ 0+ 1o 1o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 159 10cm flux: 192 Flare: 27/19.2 Ca: 50.2 Ip: 0 Ia: 0
Solar Regions
15873 N24 (Z) 15885 S26
Sunspots
S25

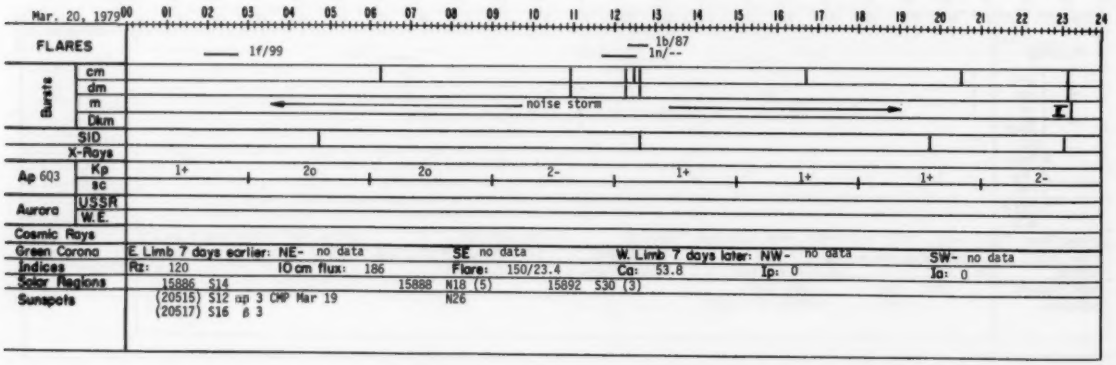

Mar. 15, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/74
1n/85
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 8Q9A
Kp
sc
1- 1+ 1o 1o 2+ 3- 3- 3-
0556 (12)
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE- bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 155 10cm flux: 183 Flare: 168/23.8 Ca: 56.1 Ip: 0 Ia: 0
Solar Regions
15874 N18 15876 S22 15878 S35 (2) (15896) S30
Sunspots
(20500) N15 (Y)3 (20504) S21 (ap)3 CMP Mar 14
(20506) N17 ap 1 CMP Mar 16

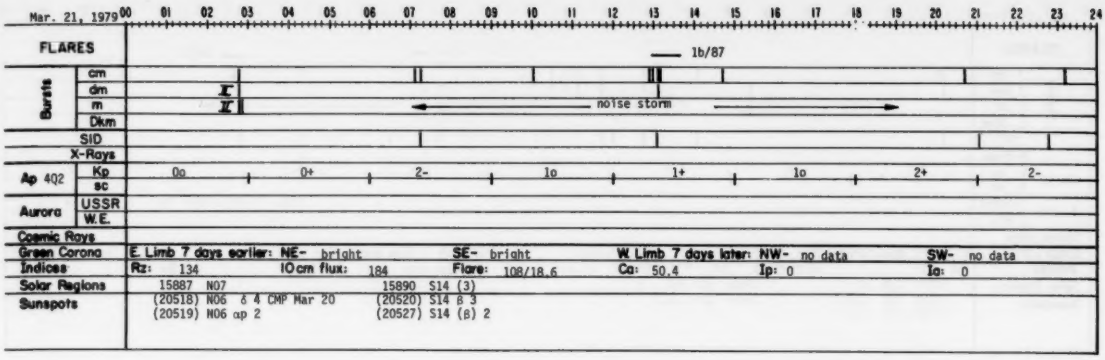

Mar. 16, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/77
1n/77
1b/77
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 11Q10A
Kp
sc
3o 3- 2+ 3o 3o 2+ 1+ 2o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- very bright SW- moderately bright
Indices
Rz: 130 10cm flux: 185 Flare: 218/24.0 Ca: 61.3 Ip: 0 Ia: 0
Solar Regions
15889 N33 15881 N29
Sunspots
N32 (20510) N27 (ap)2

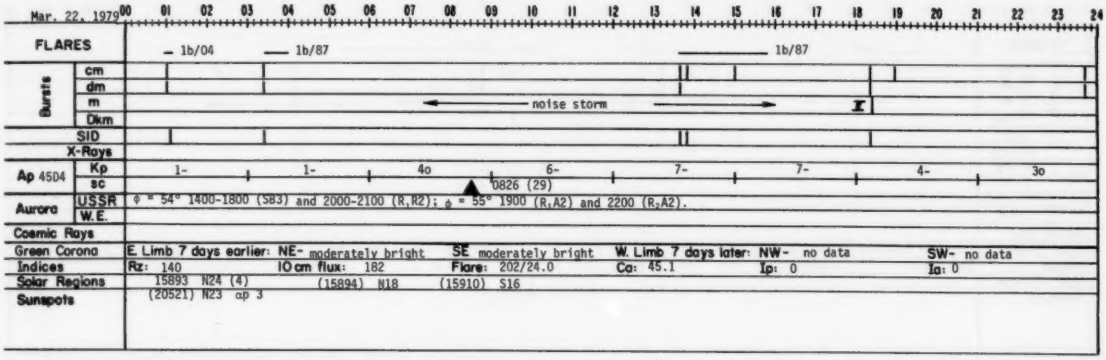

Mar. 17, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 21
Kp
3o 3o 6- 4o 3o 3- 2o 3-
sc
0231 (19)
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- very bright
SE- bright
W. Limb 7 days later: NW- very bright
SW- bright
Indices
Rz: 142
10cm flux: 180
Flare: 21/22.8
Ca: 65.5
Ip: 0
Ia: 2
Solar Regions
15880 N41
15887 N15 (2, 4 & 5)
Sunspots
(20502) N10 (gp)3 CMP Mar 16
(20506) N17 αp 1 CMP Mar 16
(20507) N16 (ß)4
(20511) N05 (ß)3
(20512) N21 (x)3
(20513) N15 (x)4
(20514) N10 (x)2 CMP Mar 18

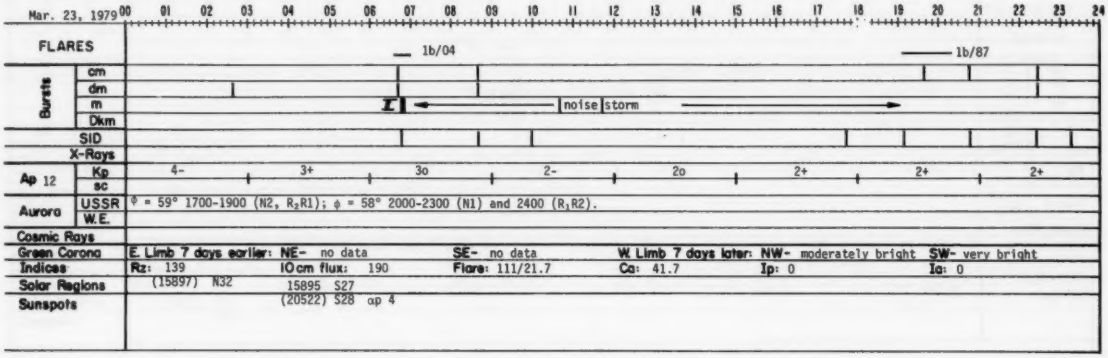

Mar. 18, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/77
1b/87
1b/86
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 7Q7A
Kp
2+ 3- 2o 2o 3- 1+ 0+ 0o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- very bright
SE moderately bright
W. Limb 7 days later: NW- very bright
SW- very bright
Indices
Rz: 142
10cm flux: 190
Flare: 176/21.9
Ca: 68.2
Ip: 0
Ia: 1
Solar Regions
15882 N30 (4)
(15907) N11
(15905) S09
Sunspots
N28

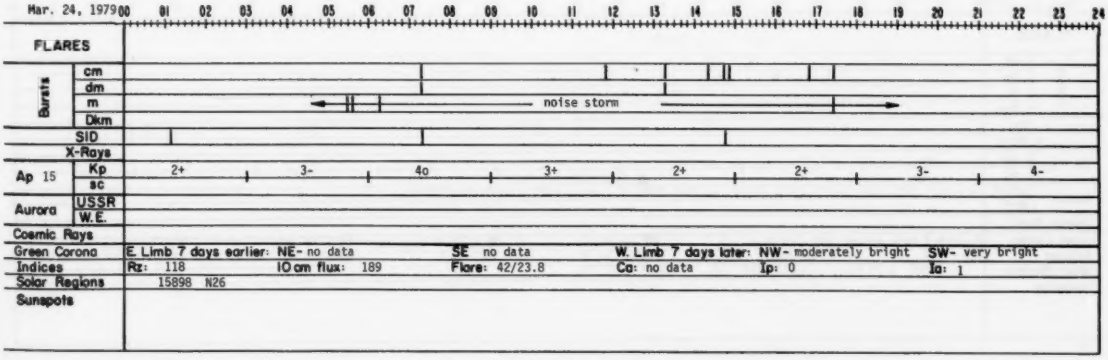

Mar. 19, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/87
1n/86
1b/87
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 11
Kp
0o 0+ 3- 3+ 3+ 3+ 3o 2-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- very bright
SE- moderately bright
W. Limb 7 days later: NW- very bright
SW- very bright
Indices
Rz: 138
10cm flux: 179
Flare: 154/23.4
Ca: no data
Ip: 0
Ia: 1
Solar Regions
(15902) S25
Sunspots
(20516) S25 αp 2

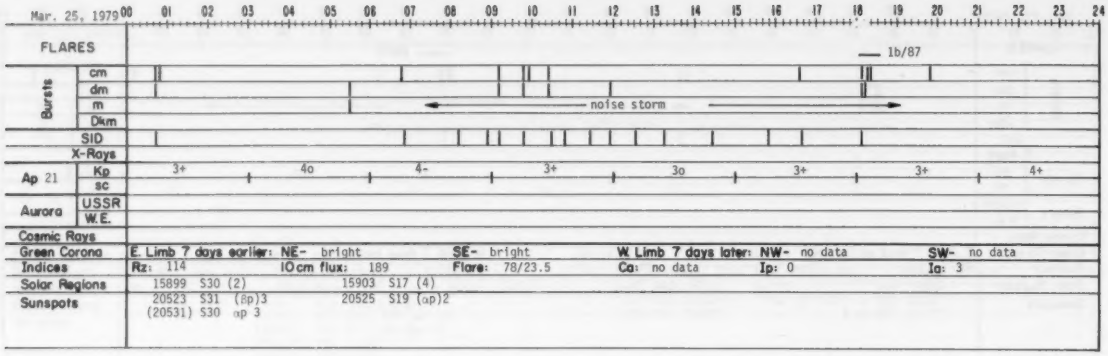

Mar. 20, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/99
1b/87
1n/--
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 6Q3
Kp
1+ 2o 2o 2- 1+ 1+ 1+ 2-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE no data
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 120
10cm flux: 186
Flare: 150/23.4
Ca: 53.8
Ip: 0
Ia: 0
Solar Regions
15886 S14
15888 N18 (5)
15892 S30 (3)
Sunspots
(20515) S12 αp 3 CMP Mar 19
N26
(20517) S16 ß 3

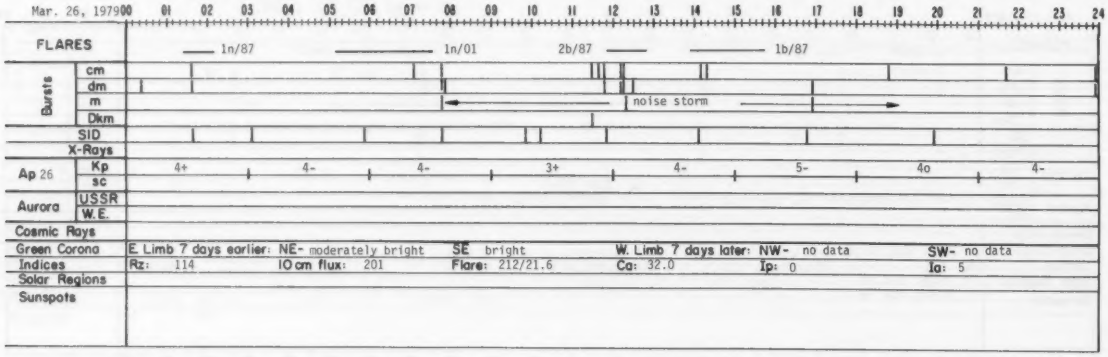

Mar. 21, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/87
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 402
Kp
sc
0o 0+ 2- 1o 1+ 1o 2+ 2-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE- bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 134 10 cm flux: 184 Flare: 108/18.6 Ca: 50.4 Ip: 0 Ia: 0
Solar Regions
15887 N07 15890 S14 (3)
Sunspots
(20518) N06 δ 4 CMP Mar 20 (20520) S14 β 3
(20519) N06 αp 2 (20527) S14 (β) 2

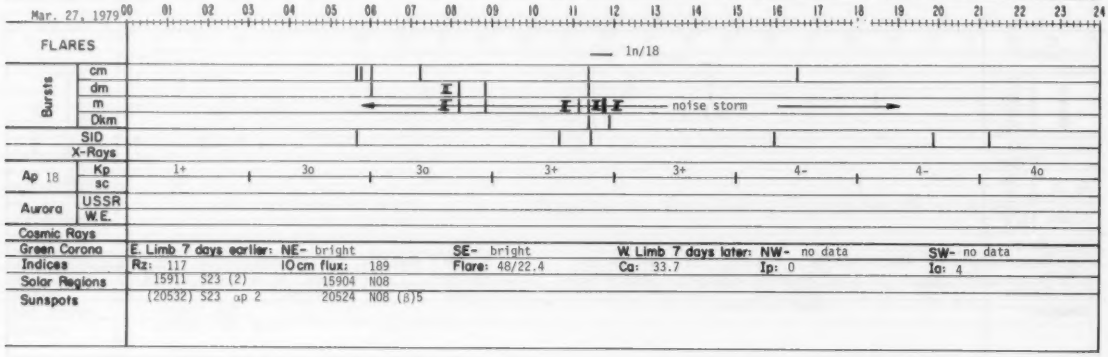

Mar. 22, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/04
1b/87
1b/87
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 4504
Kp
sc
1- 1- 4o 6- 7- 7- 4- 3o
0826 (29)
Aurora
USSR
W.E.
φ = 54° 1400-1800 (SB3) and 2000-2100 (R,R2); φ = 55° 1900 (R,A2) and 2200 (R,A2).
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE moderately bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 140 10 cm flux: 182 Flare: 202/24.0 Ca: 45.1 Ip: 0 Ia: 0
Solar Regions
15893 N24 (4) (15894) N18 (15910) S16
Sunspots
(20521) N23 αp 3

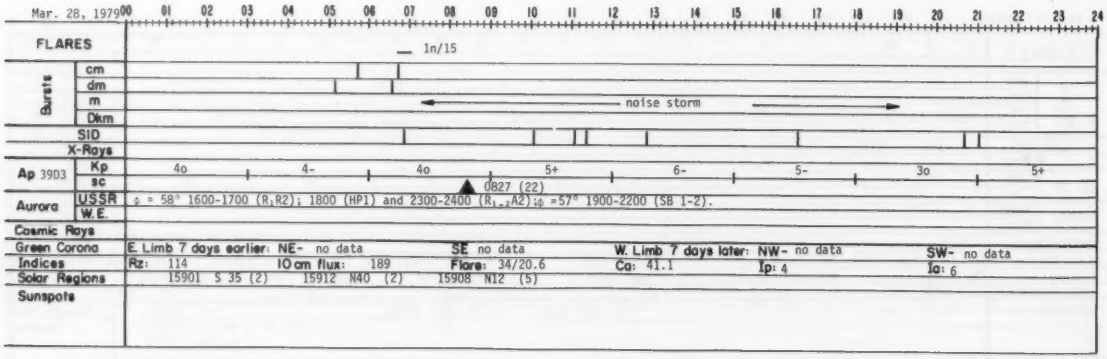

Mar. 23, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/04
1b/87
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 12
Kp
sc
4- 3+ 3o 2- 2o 2+ 2+ 2+
Aurora
USSR
W.E.
φ = 59° 1700-1900 (N2, R,R1); φ = 58° 2000-2300 (N1) and 2400 (R,R2).
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- moderately bright SW- very bright
Indices
Rz: 139 10 cm flux: 190 Flare: 111/21.7 Ca: 41.7 Ip: 0 Ia: 0
Solar Regions
(15897) N32 15895 S27
Sunspots
(20522) S28 αp 4

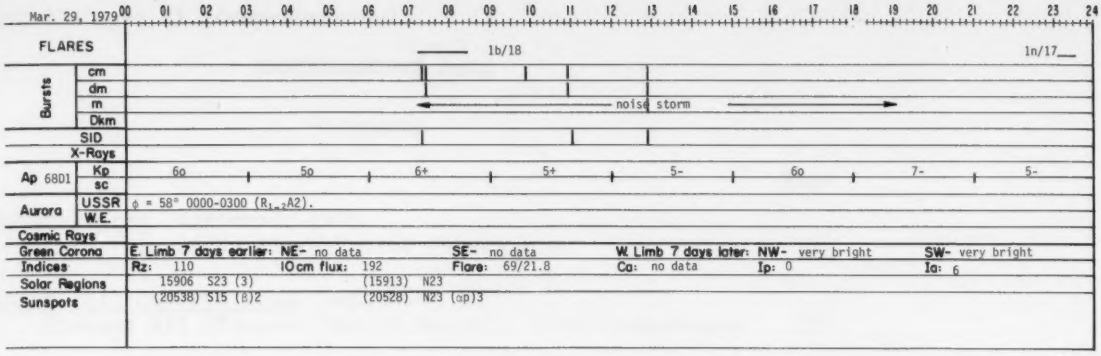

Mar. 24, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 15
Kp
sc
2+ 3- 4o 3+ 2+ 2+ 3- 4-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- moderately bright SW- very bright
Indices
Rz: 118 10 cm flux: 189 Flare: 42/23.8 Ca: no data Ip: 0 Ia: 1
Solar Regions
15898 N26
Sunspots

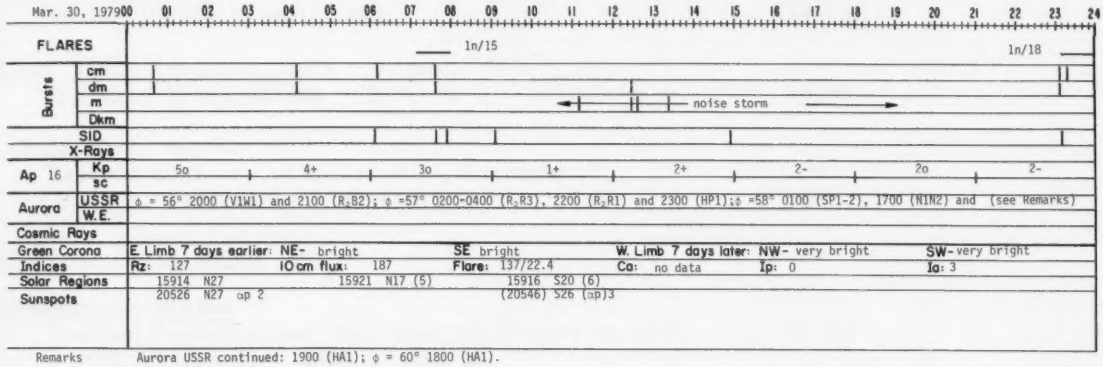

Mar. 25, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/87
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 21
Kp
3+ 4o 4- 3+ 3o 3+ 3+ 4+
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE- bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 114 IOcm flux: 189 Flare: 78/23.5 Ca: no data Ip: 0 Ia: 3
Solar Regions
15899 S30 (2) 15903 S17 (4)
Sunspots
20523 S31 (βp)3 20525 S19 (αp)2
(20531) S30 αp 3


Mar. 26, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/87
1n/01
2b/87
1b/87
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 26
Kp
4+ 4- 4- 3+ 4- 5- 4o 4-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 114 IOcm flux: 201 Flare: 212/21.6 Ca: 32.0 Ip: 0 Ia: 5
Solar Regions
Sunspots

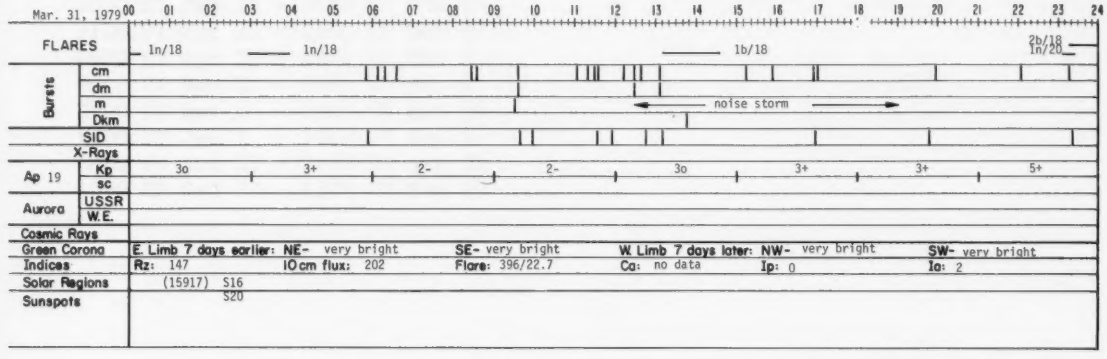

Mar. 27, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/18
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 18
Kp
1+ 3o 3o 3+ 3+ 4- 4- 4o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE- bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 117 IOcm flux: 189 Flare: 48/22.4 Ca: 33.7 Ip: 0 Ia: 4
Solar Regions
15911 S23 (2) 15904 N08
Sunspots
(20532) S23 αp 2 20524 N08 (β)5


Mar. 28, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/15
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 3903
Kp
4o 4- 4o 5+ 6- 5- 3o 5+
sc
0827 (22)
Aurora
USSR
φ = 58° 1600-1700 (R,R2); 1800 (HP1) and 2300-2400 (R1-2A2); φ =57° 1900-2200 (SB 1-2).
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 114 IOcm flux: 189 Flare: 34/20.6 Ca: 41.1 Ip: 4 Ia: 6
Solar Regions
15901 S 35 (2) 15912 N40 (2) 15908 N12 (5)
Sunspots




Mar. 30, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/15
1n/18
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 16
Kp
5o 4+ 3o 1+ 2+ 2- 2o 2-
sc
Aurora
USSR
φ = 56° 2000 (V1W1) and 2100 (R2B2); φ =57° 0200-0400 (R2R3), 2200 (R2R1) and 2300 (HP1);φ =58° 0100 (SP1-2), 1700 (N1N2) and (see Remarks)
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE bright W. Limb 7 days later: NW- very bright SW- very bright
Indices
Rz: 127 10cm flux: 187 Flare: 137/22.4 Ca: no data Ip: 0 Ia: 3
Solar Regions
15914 N27 15921 N17 (5) 15916 S20 (6)
Sunspots
20526 N27 αp 2 (20546) S26 (αp)3

Remarks Aurora USSR continued: 1900 (HA1); φ = 60° 1800 (HA1).



SGD 423 Part II (Comprehensive)

MISCELLANEOUS DATA

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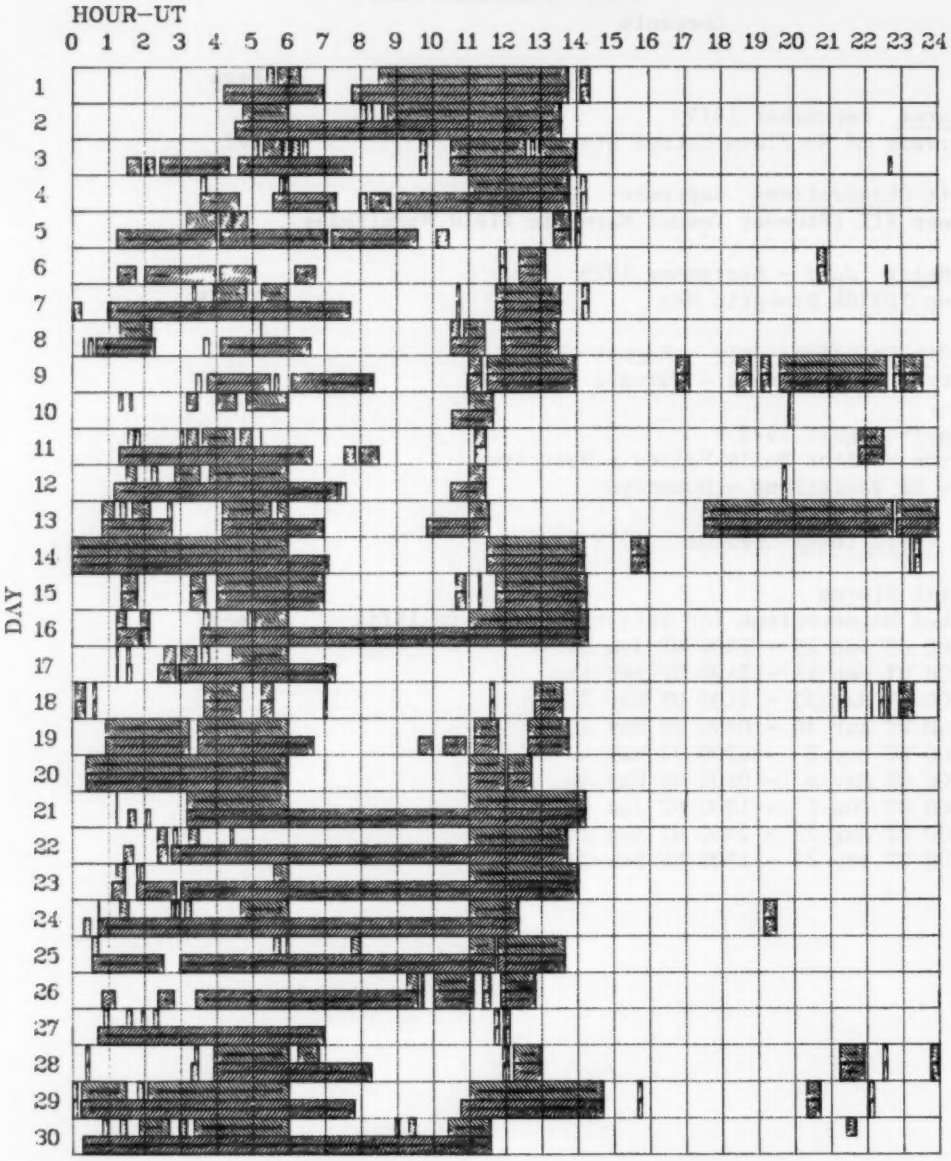
0000 UT Feb 14 - 2400 UT Feb 15	
2100 UT Mar 25 - 2100 UT Mar 27	
0900 UT Apr 30 - 0900 UT May 2	
0900 UT May 2 - 0900 UT May 4	
0600 UT May 8 - 0600 UT May 10	
1800 UT Jun 1 - 1800 UT Jun 3	
0000 UT Aug 27 - 2400 UT Aug 28	
1500 UT Sep 27 - 1500 UT Sep 29	

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

SEPTEMBER 1979



Observatories included in total patrol:

Athenes	Bucharest	Istanboul	Manila	Palehua	Upice
Berne	Holloman	Kodaikanal	Monte Mario	Ramey	Wendelstein
Big Bear					

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

PIONEER XII

MAGNETIC FIELD MAGNITUDES

SEPTEMBER 1979

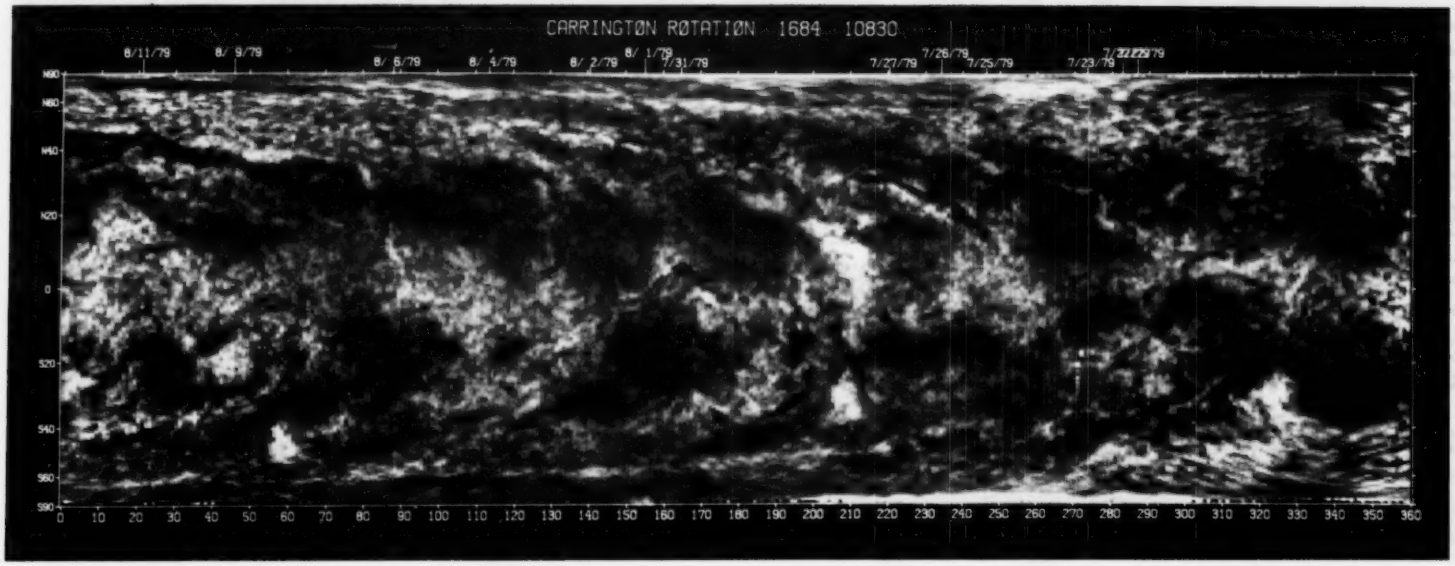
DATE	TIME	|B|
9/17/79	07:01:05	8.45
9/18	06:46:43	11.39
9/19	06:54:42	15.48
9/20	06:55:28	16.77
9/21	06:57:16	13.91
9/22		--
9/23		--
9/24	06:49:13	6.38
9/25	06:57:57	16.27
9/26	06:59:07	10.43
9/27	06:55:06	12.59
9/28	07:04:31	9.31
9/29	07:05:19	10.57
9/30	07:05:13	10.22

74
Misc
Jul-Sep 79

HELIUM 10830Å SYNOPTIC MAPS

CARRINGTON ROTATION 1684

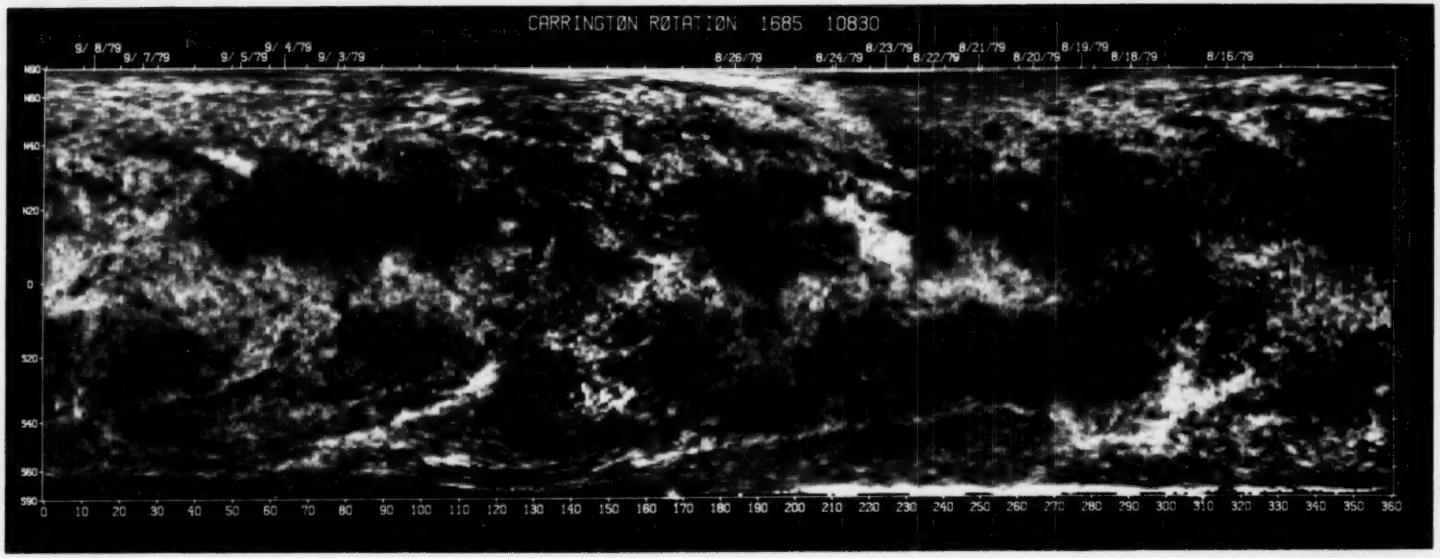
KITT PEAK NATIONAL OBSERVATORY



HELIUM 10830Å SYNOPTIC MAPS

CARRINGTON ROTATION 1685

KITT PEAK NATIONAL OBSERVATORY



SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS										SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT		
01	1215	2245	HARV				1426	1430	3					IIIG
			HARV				1511	1517	2					IIIG
			HARV				1812		2					IIIG
			HARV				2056		1					IIIG
02	1215	2245	HARV				1326	1408	1					I
			HARV				1408	1409	2					IIIG
			HARV				1603		1					IIIBW
			HARV				1859	1901	1					I
			HARV				1931		2					IIIG
			HARV				2200	2202	1					IIIG
03	1215	2245	HARV				1220	1240	1					I
			HARV				1326		2					IIIG
			HARV				1427	1442	1					I
			HARV				1555		1					IIIBW
			HARV				1600	1624	2					IN,IIIN
			HARV				1618	1621	3					IIIGG
			HARV				1720	1905	1					IN
			HARV				1907	1911	3					IIIGG
			HARV				1937	1938	3					IIIG
			HARV				2046	2101	3					IIIGG
			HARV				2143	2159	3					IIIGN
04	1215	2245	HARV				1255	1438	1					I
			HARV				1439	1905	2					I
			HARV				1605	2052	2					IIIN
			HARV				1905	2000	3					IC
05	1230	2245	HARV				1814		1					IIIB
			HARV				2050	2052	2	2051		2		I,IIIG
			HARV				2158	2235	3					I,IIIN
			HARV				2224	2226	3	2225	2226	3		IIIGG
			HARV				2232	2233	3	2232	2233	3		IIIG
06	1230	2245	HARV				1247	1315	3					IIIGN,IN
			HARV				1457	1458	1					IIIG
			HARV				1557	2046	1					IN
			HARV				1832	1836	3	1832	1836	3		IIIGG,V
			HARV				1839	1849	2				II	
			HARV				1839	1849	3	1839	1849	3		IIIGG
			HARV				1919	1922	1					IIIG
			HARV				2039		1					IIIGW
07	1230	2245	HARV				1257	1259	2					IIIGG
			HARV				1549	1636	1					I
			HARV				1810	1811	1					IIIG
			HARV				1943		2					IIIG
			HARV				2031	2033	2	2032		1		IIIGG
			HARV				2101	2216	1					I
			HARV				2233	2234	2					IIIG
08	1230	2245	HARV				1240	2154	1					INW
			HARV				1937	2001	1					IIIN
09	1230	2245	HARV				1300	1742	1					IN
			HARV				1358		2					IIIG
10	1230	2245	HARV											
11	1230	2245	HARV				1517	1744	1					IIIN
			HARV				1610	1611	2					I,IIIG
12	1230	2245	HARV				1732	1736	3	1732	1736	3		IIIG
			HARV				2159		3	2159		3		IIIB
13	1230	2245	HARV											
14	1230	2245	HARV				1924	1925	2	1924	1925	3		IIIG
15	1230	2245	HARV				1407	1412	2	1407	1411	2		IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
15			HARV				1442	1445	2				IIIG
			HARV				1452		2	1452		3	IIIG
			HARV				1520		2	1520		3	IIIB
			HARV				1526	1527	1				IIIG
			HARV				1730	1734	2	1730	1734	3	IIIG
			HARV				1858	1903	3	1858	1903	3	IIIG
			HARV				2024	2025	3	2024	2025	3	IIIG,V
			HARV				2109	2111	2	2109	2111	2	IIIG
			HARV				2201	2202	3	2101	2102	3	IIIG
			HARV				2231		3				IIIG
16	1230	2055	HARV				1325	1326	2				IIIG
			HARV				1454	1457	1				IIIG
			HARV				1614	1628	1				IIIN
			HARV				1701	1706	1				IIIG
			HARV				1844	1845	3	1844	1845	3	IIIB
			HARV				2011	2012	2				IIIG
17	1510	2245	HARV										
18	1230	2245	HARV				1752	1800	1	1752	1800	2	IIIG
19	1230	1904	HARV				1239	2237	1				IIIN
	1918	2245	HARV				1334	1337	2				IIIG
			HARV				1439	1440	2				IIIG
			HARV				1539	1543	3				IIIGG
			HARV				1556	1600	3	1557	1559	2	IIIGG
			HARV				1613		2				IIIG
			HARV				1703	1705	3	1703	1704		IIIGG
			HARV				1807	1815	3				IIIGG
			HARV				1921	1923	2				IIIGG
			HARV				2244	2245	3				IIIG
20	1240	2245	HARV				1254	1256	3				IIIG
			HARV				1946	2045	1				IW
21	1240	1933	HARV				1342	1345	2				IIIG
	2220	2245	HARV				1639	1641	3	1639	1641	3	IIIG
			HARV				1812	1925	1				INW
22	1230	2250	HARV				1437		2	1437		2	IIIB
23	1230	2250	HARV										
24	1230	2245	HARV				1702		1	1702		1	IIIB
			HARV				1855	1859	3	1855	1859	3	IIIG
			HARV				2140		3	2140		3	IIIB
25	1235	2245	HARV				1825	1835	3	1825	1835	3	IIIG
			HARV				2059	2100	1	2059		1	IIIG
			HARV				2213		1				IIIG
26	1230	2245	HARV				1259	2115	1				IIIN
			HARV				1414	1416	3				IIIGG
			HARV				1817	1818	3	1817	1818	3	IIIG
27	1230	2245	HARV				1628	1629	1				IIIG
			HARV				1803	1806	1				IIIG
			HARV				2022	2025	2	2025		3	IIIG
			HARV				2122	2124	3	2122	2124	3	IIIG,V
28	1230	2245	HARV				1633	1634	1				IIIG
			HARV				1744	1745	3	1744	1745	3	IIIG
			HARV				1918		3	1918		3	IIIB
			HARV				1933	1935	1				IIIGW
29	1230	2245	HARV				1425	1427	2				IIIG
			HARV				1434	1435	2				IIIG
30	1245	2245	HARV										
31	1245	2250	HARV				1453	1916	1				INW

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	1655	2245	HARV										
02	1245	2245	HARV				1254	2147	1				INW
			HARV				1302		1				IIIG
			HARV				1748	1749	2				IIIG
			HARV				1801	1803	2				IIIG
			HARV				2215	2217	1				IIIG
03	1245	2240	HARV				1606		1				IIIG
			HARV				1622	1623	1				IIIG
			HARV				1802	1804	3	1802	1804	3	IIIG
04	1246	2250	HARV				1558	1600	2	1558	1600	3	IIIG
05	1246	2230	HARV				1543		1				IIIGW
			HARV				1615		1				IIIGW
			HARV				1818		1				IIIGW
06	1245	2245	HARV										
07	1245	2245	HARV				1809	1810	3	1809	1810	3	IIIG
			HARV				2056	2102	2				I
08	1246	2245	HARV				1538		1	1538		1	IIIG
09	1246	2245	HARV				1759	1800	3	1800		3	IIIG,U
10	1245	2245	HARV										
11	1246	2245	HARV				1852		3	1852		3	IIIG,U
12	1245	2245	HARV				2114		1	2114		1	IIIB
13	1246	2245	HARV				1246	2215	1				IC
			HARV				1537		1				IIIG
			HARV				1804	1808	3				IIIG
			HARV				2031	2034	2				IIIG
14	1245	2245	HARV				1503	1507	3	1507		3	IIIG
			HARV				1535	1549	3	1543	1544	3	IIIGG,V
			HARV				1700	1701	2	1700	1701	2	IIIB
			HARV				1728	1732	3	1728	1731	3	IIIGG,V
			HARV				1730	1732	3				UNCL
			HARV				1745	1752	1				UNCL
			HARV				1856		2	1856		2	IIIB
			HARV				1905		1				IIIB
			HARV				1926	1931	1				IIIG
			HARV				2048	2053	3	2048	2050	3	IIIGG,V
15	1245	2245	HARV				1402	2210	1				IIIN
			HARV				1432	1433	3				IIIG
			HARV				1453	1454	2				IIIG
			HARV				1512	1513	2				IIIG
16	1245	2250	HARV				1643	1644	1	1643	1644		IIIG
			HARV				1652	1930	1				I
			HARV				1703	1705	3	1703	1704	3	IIIG
			HARV				1718		1	1718		1	IIIG
			HARV				2046		2	2046			IIIB
			HARV				2117		1				IIIB
17	1245	2245	HARV				1619		2				IIIG
			HARV				2007		3				IIIG
18	1245	2245	HARV				1255		2				IIIB
			HARV				1316		2				IIIG
			HARV				1409	1412	3				IIIG,U
			HARV				1412	1433	3			II	
			HARV				1603		3	1603		3	IIIB
			HARV				1738	1743	2	1738	1743	2	IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
18			HARV				1754	1759	2	1754		2	IIIG
			HARV				1823	1826	3	1823	1826	3	IIIGG
			HARV				2035	2038	1	2035		1	IIIG
19	1245	2245	HARV				1333	2245	1				INW
			HARV				1518		1				IIIB
			HARV				1601		2				IIIG
			HARV				1828		1				IIIBW
			HARV				1838	1842	3	1838	1842	3	IIIG
			HARV				2133		2				IIIB
20	1300	2245	HARV				1300	1730	2				I
			HARV				1416		1				IIIG
			HARV				1550		1				IIIG
			HARV				1730	2130	1				I
			HARV				2231	2233	2				IIIG
21	1302	2245	HARV				1330	1332	1				IIIG
			HARV				1345	1346	3	1345	1346	3	IIIG,V
			HARV				1356	1359	1				IIIG
			HARV				1405		1				IIIB
			HARV				1416	1420	2				IIIG
			HARV				1549	1550	1				IIIG
			HARV				1620		1				IIIBW
			HARV				1647	1648	3	1647	1648	3	IIIG
			HARV				1659	1708	2	1659		1	IIIG
			HARV				1751	1753	3	1751	1753	3	IIIG,V,UNC
			HARV				1803	1811	3	1803	1806	3	IIIG
			HARV				1820	2117	1				IN
			HARV				1908	1909	2	1909		2	IIIG
			HARV				1919		3	1919		3	IIIG,V
			HARV				2001	2002	2	2002		2	IIIG,V
			HARV				2011		1				IIIG
			HARV				2117	2245	2				IC
22	1301	2245	HARV				1303		1				IIIG
			HARV				1333	1642	1				IIIN
			HARV				1338	1341	2				IIIG
			HARV				1352	1400	2				IIIG
			HARV				1507	1508	2	1507	1508	1	IIIG
			HARV				1531	1534	2	1531	1534	1	IIIG
			HARV				1605		3	1605		3	IIIB
			HARV				1613		2	1613		2	IIIB
			HARV				1638	1642	3	1638	1640		IIIBB
			HARV				1653	1654	2	1653	1654	2	IIIG
			HARV				1701	1702	2	1701		3	IIIG
			HARV				1727	1736	1	1727	1736	1	IIIG
			HARV				1812	1813	2	1812	1813	2	IIIG
			HARV				1907		2	1907		3	IIIG
			HARV				2025	2026	3	2025	2026	3	IIIG,U
			HARV				2051		2	2051		2	IIIG
23	1302	2245	HARV				1431	1432	2				IIIG,V
			HARV				1713		2				IIIG
			HARV				1738	1743	3	1739	1743	3	IIIGG,V
			HARV				1852		2	1852		2	IIIG
24	1302	2245	HARV				1302	1700	1				IN
			HARV				1700	1830	1				I,DC
			HARV				1815	1817	2	1815	1817	3	IIIGG
			HARV				1824	2212	1	1834	2116	1	IIIN
			HARV				2242	2245	2				IIIGG
25	1302	2245	HARV				1459		2	1459		2	IIIB
			HARV				1511	2245	1				IN
			HARV				1601		1				IIIB
			HARV				1724	1726	3	1724	1726		IIIGG
			HARV				1740	1745	2	1740	1745	2	IIIG
			HARV				1916	2056	1	1916	1927	1	IIIN
			HARV				1959	2005	3	1959	2005	3	IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1979

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
25			HARV				2024		2				IIIG
			HARV				2218	2222	2	2218	2222	2	IIIG
			HARV				2225	2230	2	2226	2227	1	IIIGG
26	1302	2245	HARV				1322		1				IIIBW
			HARV				1500		1				IIIG
			HARV				1512	1513	1	1512		1	IIIG
			HARV				1534		1				IIIGW
			HARV				1632		2				IIIB
			HARV				1642	1652	2	1647		1	I,IIIG
			HARV				1657	1658	2				IIIG
			HARV				1718	1800	1				I
			HARV				1725	1803	3	1725		3	IIIGG
			HARV				1802	1807	3	1802	1807	3	UNCL
			HARV				1810	1820	1	1810	1820	1	I,IIIGG
			HARV				1835		1	1835		2	IIIB
			HARV				1852	1912	1				IVP
			HARV				1855	1912	1				IW
			HARV				1919	1921	3	1919	1921	3	IIIG
			HARV				2108	2109	3	2108	2109	3	IIIG
			HARV				2112		2				IIIG
			HARV				2127	2128	3	2127	2128	3	IIIG
			HARV				2226		1	2226		1	IIIB
27	1302	2245	HARV				1840		1				IIIB
			HARV				1854		1	1854		2	IIIB
			HARV				2034		2	2034		3	IIIB
			HARV				2100	2103	2	2100	2103	2	IIIG
			HARV				2133	2135	3	2133	2135	3	IIIG
28	1302	2245	HARV				1409	1411	1				IIIGW
			HARV				1414	1416	2				IIIG
			HARV				1428		2	1428		2	IIIB
			HARV				1511	1512	2				IIIG
			HARV				1518		2				IIIG
			HARV				1657		1	1657		1	IIIG
			HARV				1723	2018	1				IIIN,W
			HARV				1803		2	1803		3	IIIB
			HARV				1841	1852	2	1841	1852	2	IIIG
29	1302	2245	HARV				1351	1356	2				IIIG
			HARV				1452		2				IIIG
			HARV				1840	1919	1				IIISW
30	1302	2245	HARV										
31	1302	2245	HARV				1425		1				IIIB
			HARV				1818	1819	2				IIIG,U
			HARV				1836		2				IIIG,U
			HARV				1845	1846	2	1845	1846	2	IIIG
			HARV				1932	1933	1				IIIG
			HARV				2018		3				IIIG
			HARV				2108		1				IIIG,U

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

COSMIC RAY INDICES
(Neutron Monitors)
AUGUST 1979

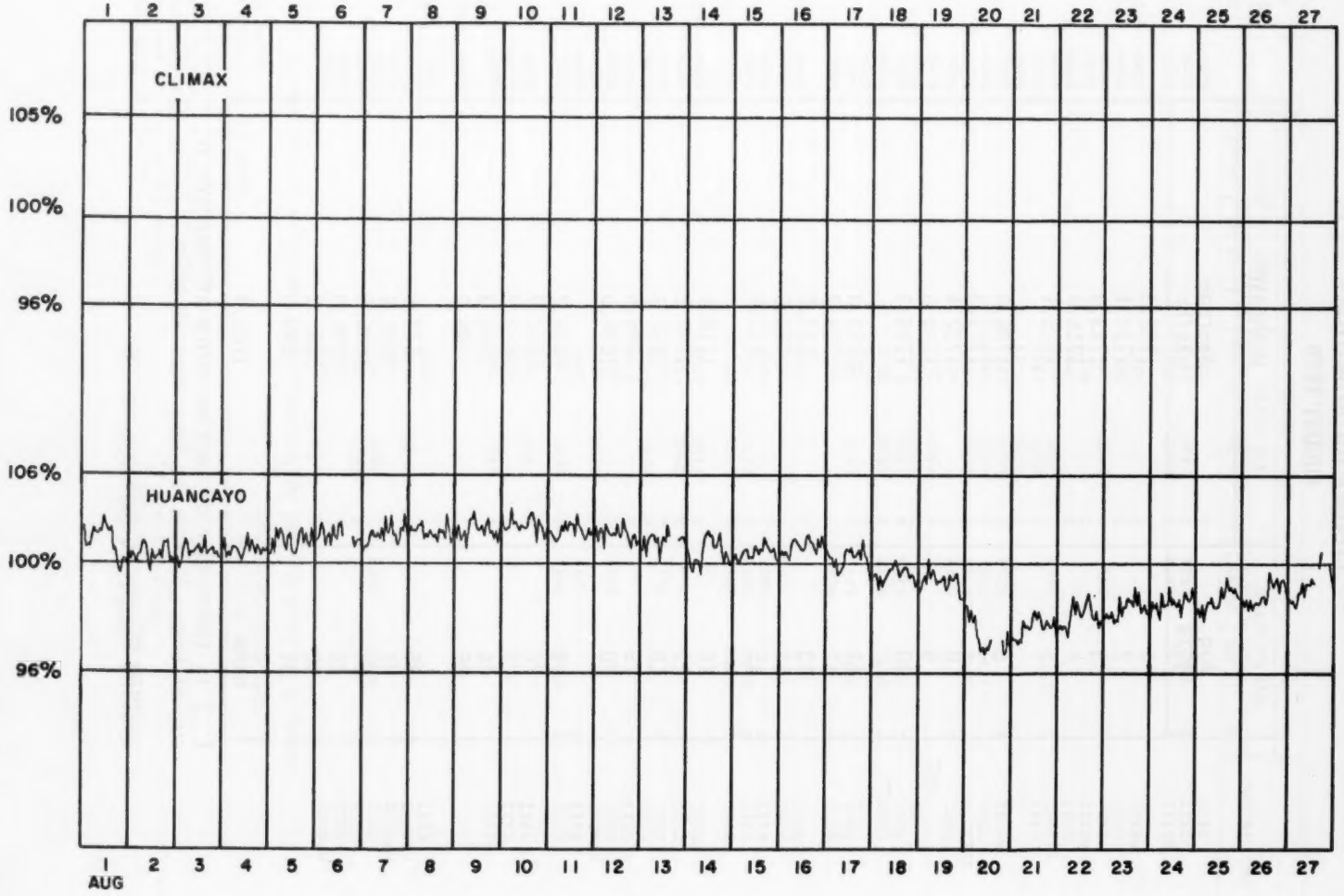
Aug. 1979	HUANCAYO Average cts/hr
1	1722.3
2	1711.1
3	1713.0
4	1715.4
5	1723.1
6	1728.8
7	1729.8
8	1732.4
9	1734.5
10	1739.3
11	1733.3
12	1729.7
13	1723.7
14	1713.6
15	1712.5
16	1718.5
17	1707.2
18	1692.3
19	1685.5
20	1634.5
21	1642.2
22	1652.9
23	1659.9
24	1665.3
25	1668.0
26	1673.6
27	1681.2
28	1696.5
29	1700.9
30	1697.9
31	1699.0
MEAN	1701.4

( ) is the number of section hours at Huancayo if sum of both sections is less than 40 hours.

Scaling Factor at Huancayo is 100.

COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1996 (August 1979)

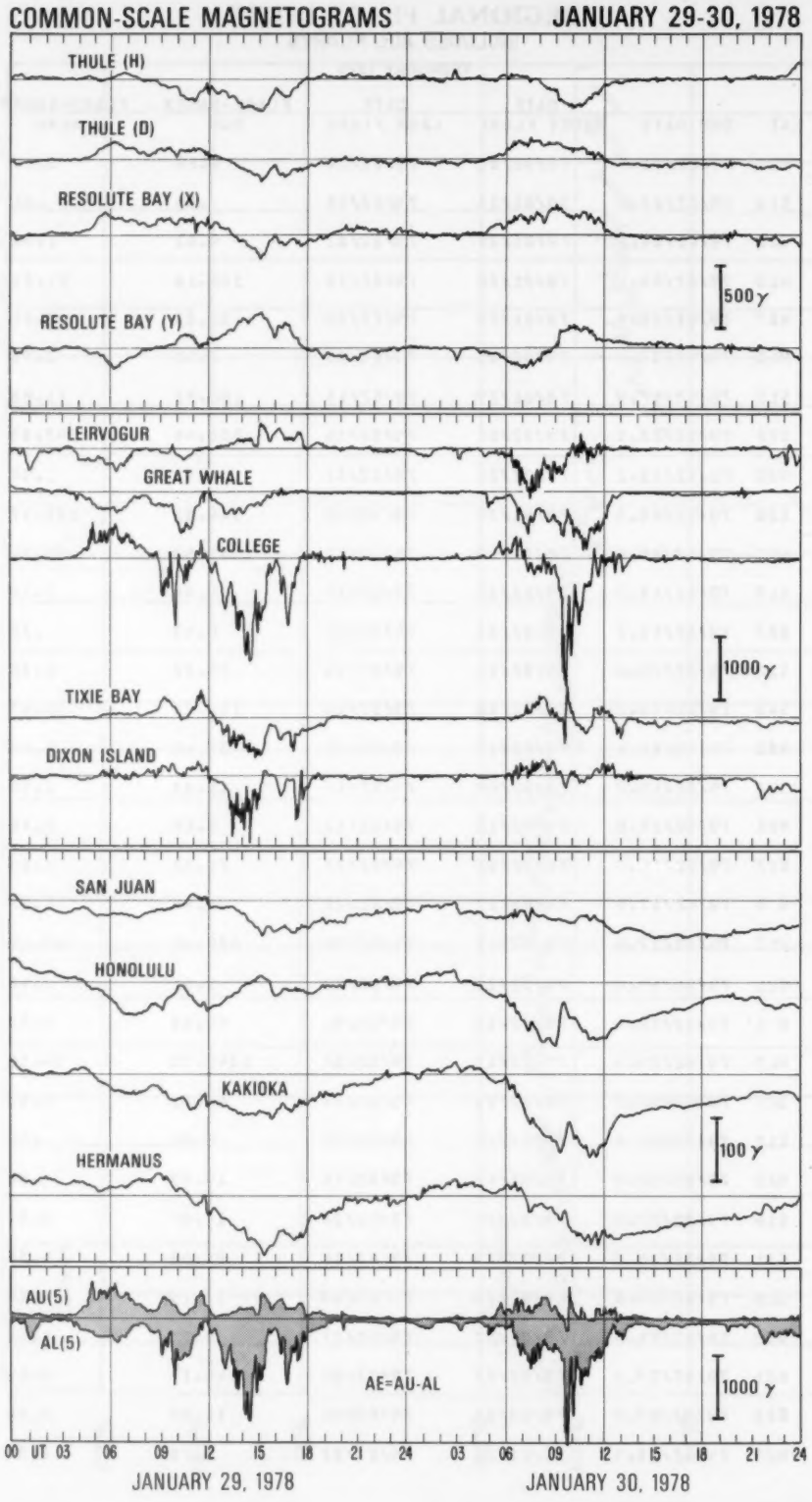


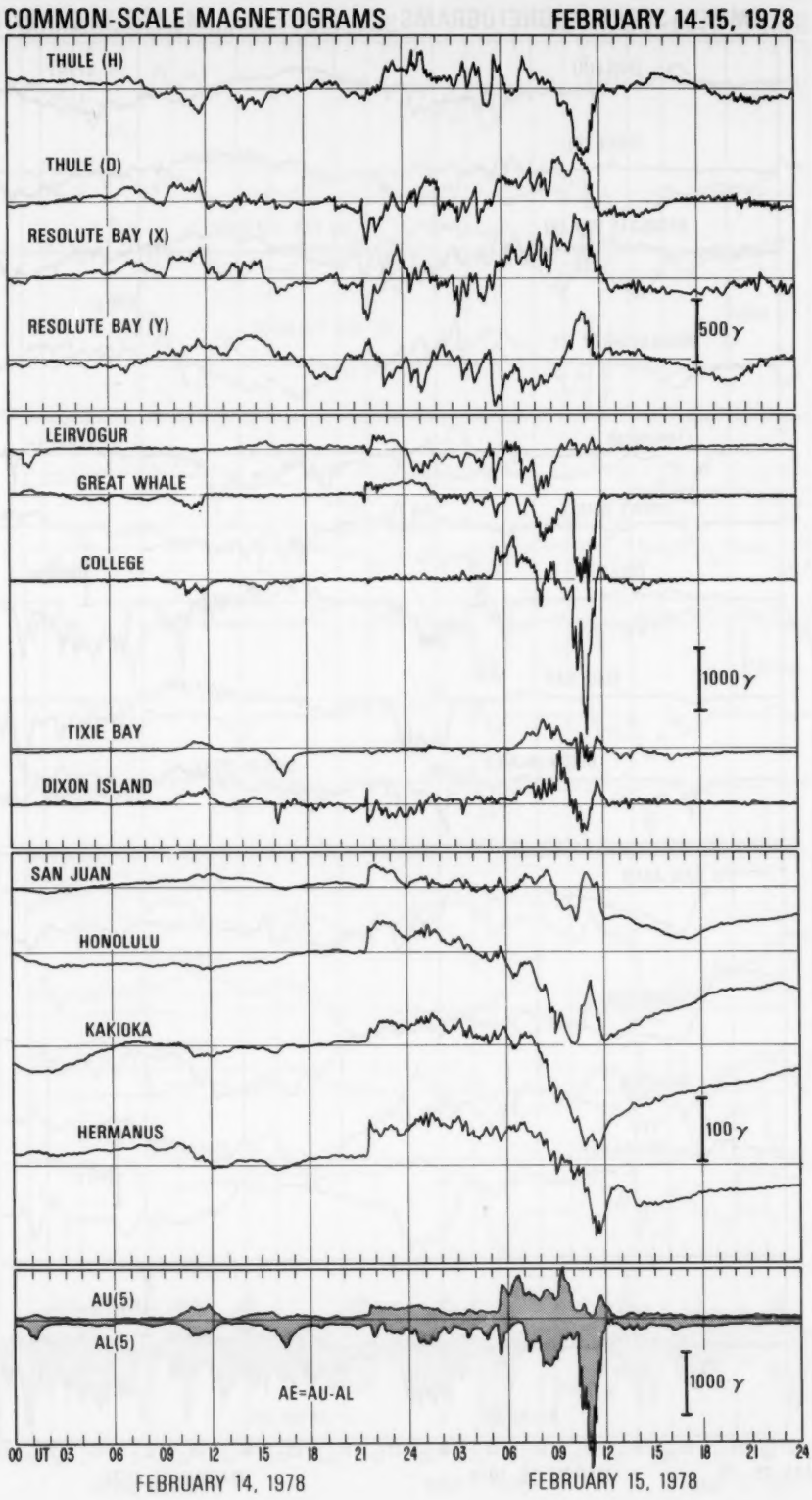
REGIONAL FLARE INDEX

INCLUDES ALL FLARES

FEBRUARY 1979

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
15793	N21	79/02/01.5	79/02/01	79/02/04	4.66	1.17	2
15814	S16	79/02/02.5	79/02/08	79/02/08	.86	.86	1
15798	S35	79/02/04.8	79/01/31	79/02/02	4.61	1.54	2
15802	N15	79/02/06.4	79/01/28	79/02/10	305.18	21.80	70
15796	N27	79/02/06.8	79/01/29	79/02/08	33.08	3.01	18
15805	N13	79/02/07.1	79/02/05	79/02/05	3.56	3.56	1
15804	S12	79/02/07.9	79/01/29	79/02/10	151.82	11.68	43
15808	S20	79/02/08.1	79/02/01	79/02/16	688.46	43.03	58
15806	N35	79/02/08.2	79/02/07	79/02/07	1.98	1.98	1
15800	S20	79/02/08.9	79/01/30	79/02/03	544.85	108.97	3
15807	N15	79/02/09.6	79/02/02	79/02/16	1482.60	98.84	95
15812	S15	79/02/10.2	79/02/05	79/02/15	29.88	2.72	11
15815	S27	79/02/11.7	79/02/04	79/02/16	4.49	.35	4
15813	S12	79/02/13.6	79/02/06	79/02/18	76.03	5.85	27
15816	S40	79/02/14.3	79/02/08	79/02/14	108.29	15.47	25
15825	N22	79/02/15.1	79/02/13	79/02/20	37.49	4.69	11
15818	S23	79/02/15.2	79/02/09	79/02/12	11.93	2.98	6
15819	N21	79/02/15.6	79/02/12	79/02/13	5.48	2.74	3
15827	S17	79/02/16.9	79/02/12	79/02/23	21.93	1.83	7
15836	N 8	79/02/17.5	79/02/17	79/02/22	24.40	4.07	10
15823	N17	79/02/17.6	79/02/12	79/02/24	639.42	49.19	95
15839	S21	79/02/18.3	79/02/21	79/02/22	2.81	1.40	2
15828	N 4	79/02/18.4	79/02/14	79/02/21	55.40	6.92	8
15830	N18	79/02/19.4	79/02/12	79/02/27	1345.73	84.11	183
15832	S27	79/02/20.7	79/02/13	79/02/24	42.31	3.53	17
15834	S12	79/02/22.6	79/02/18	79/02/27	6.56	.66	4
15837	N22	79/02/22.9	79/02/16	79/02/28	19.99	1.54	10
15844	S18	79/02/23.8	79/02/24	79/02/28	14.87	2.97	4
15851	S31	79/02/25.3	79/02/25	79/03/01	21.80	4.36	7
15838	S26	79/02/25.8	79/02/24	79/03/03	33.15	4.14	10
15840	N36	79/02/25.9	79/02/22	79/02/27	9.21	1.53	4
15852	S21	79/02/27.2	79/02/27	79/03/05	40.79	5.83	22
15857	S28	79/02/27.5	79/03/01	79/03/05	11.22	2.24	6
15843	N24	79/02/28.9	79/03/01	79/03/02	6.78	3.39	2


COMMON-SCALE MAGNETOGRAMS
JANUARY 29-30, 1978
THULE (H)
THULE (D)
RESOLUTE BAY (X)
RESOLUTE BAY (Y)
500γ
LEIRVOGUR
GREAT WHALE
COLLEGE
1000γ
TIXIE BAY
DIXON ISLAND
SAN JUAN
HONOLULU
KAKIOKA
100γ
HERMANUS
AU(5)
AL(5)
AE=AU-AL
1000γ
00 UT 03 06 09 12 15 18 21 24 03 06 09 12 15 18 21 24
JANUARY 29, 1978
JANUARY 30, 1978


COMMON-SCALE MAGNETOGRAMS
FEBRUARY 14-15, 1978
THULE (H)
THULE (D)
RESOLUTE BAY (X)
RESOLUTE BAY (Y)
500 γ
LEIRVOGUR
GREAT WHALE
COLLEGE
1000 γ
TIXIE BAY
DIXON ISLAND
SAN JUAN
HONOLULU
KAKIOKA
HERMANUS
100 γ
AU(5)
AL(5)
AE=AU-AL
1000 γ
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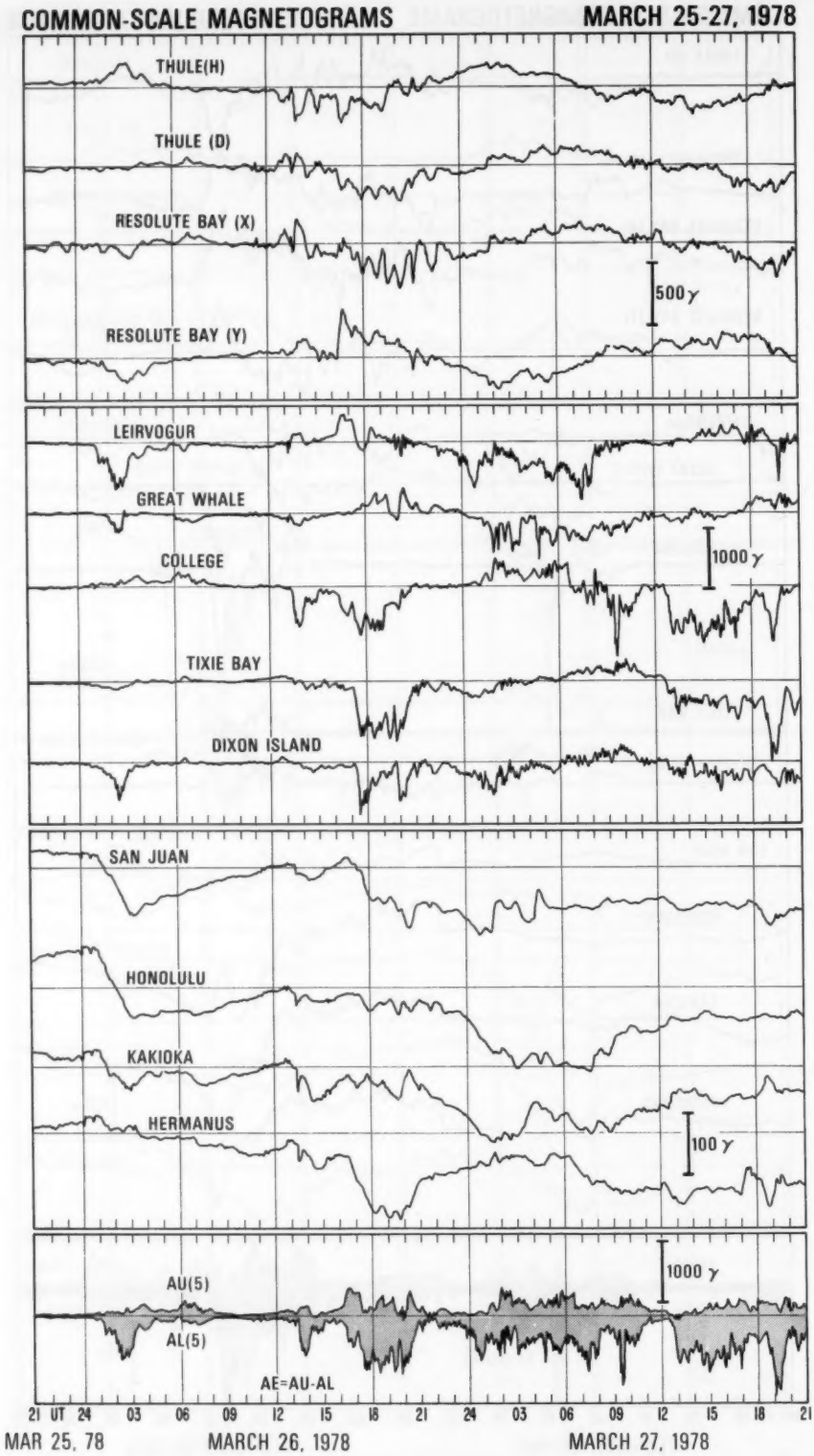
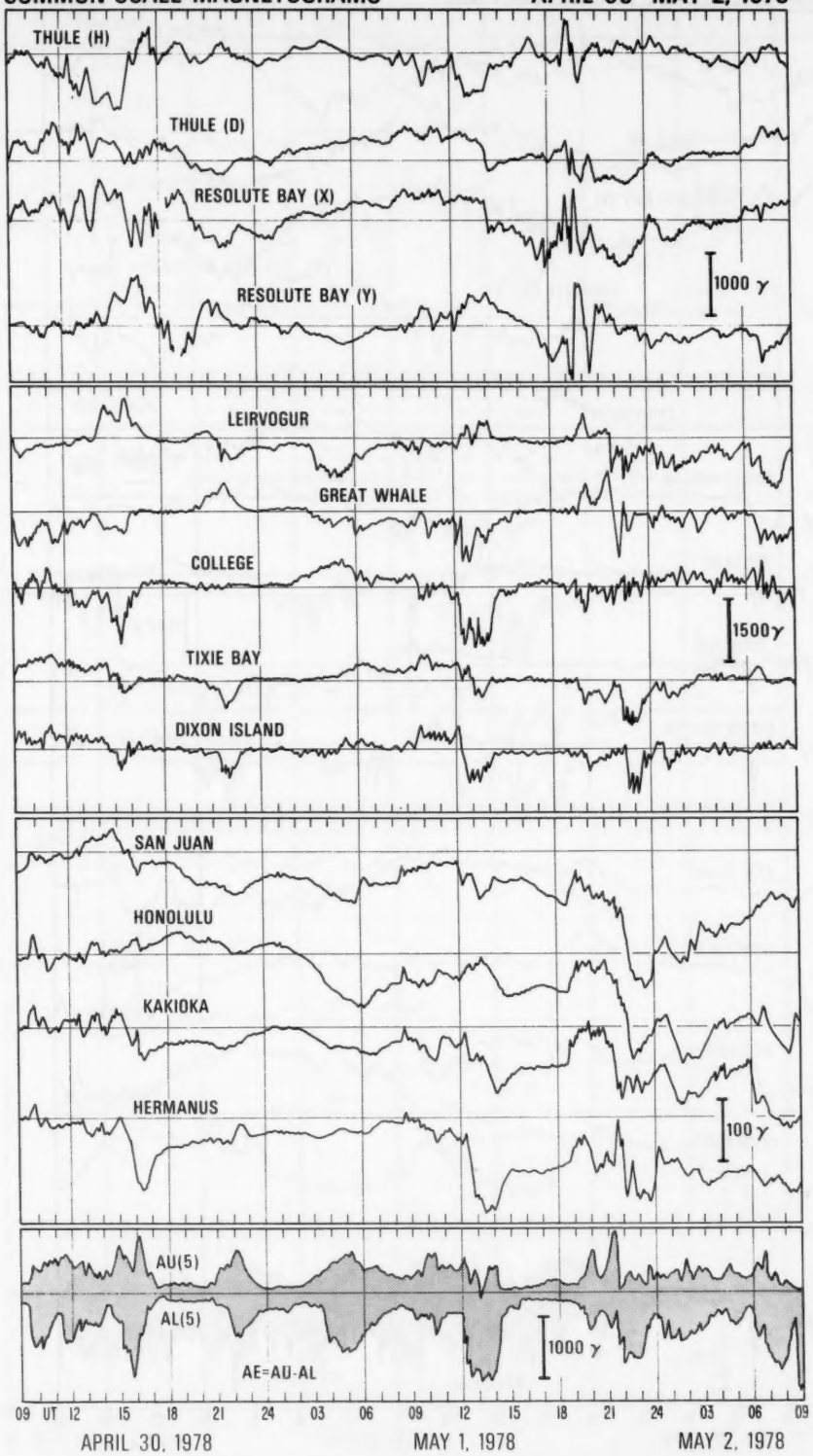
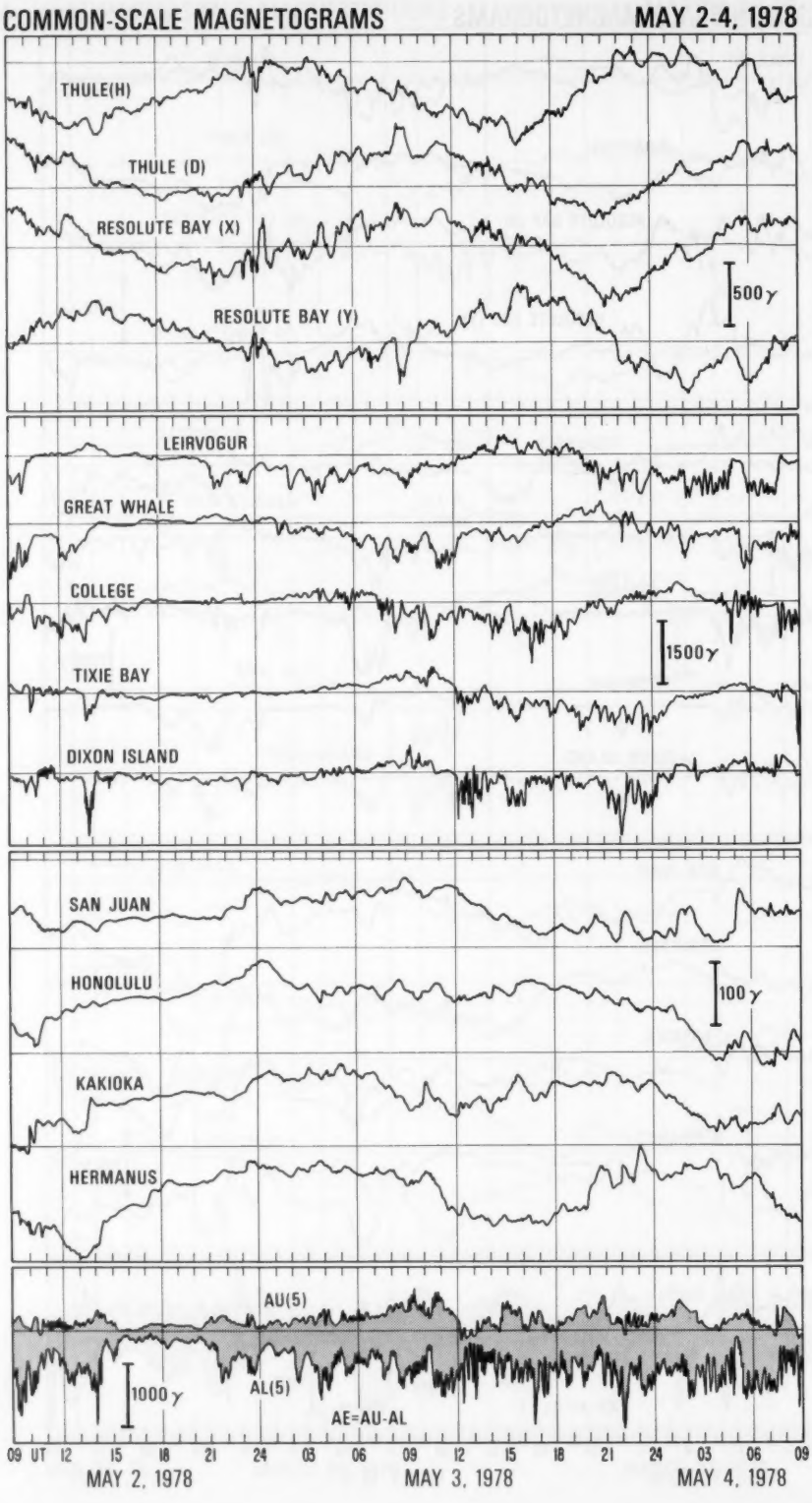
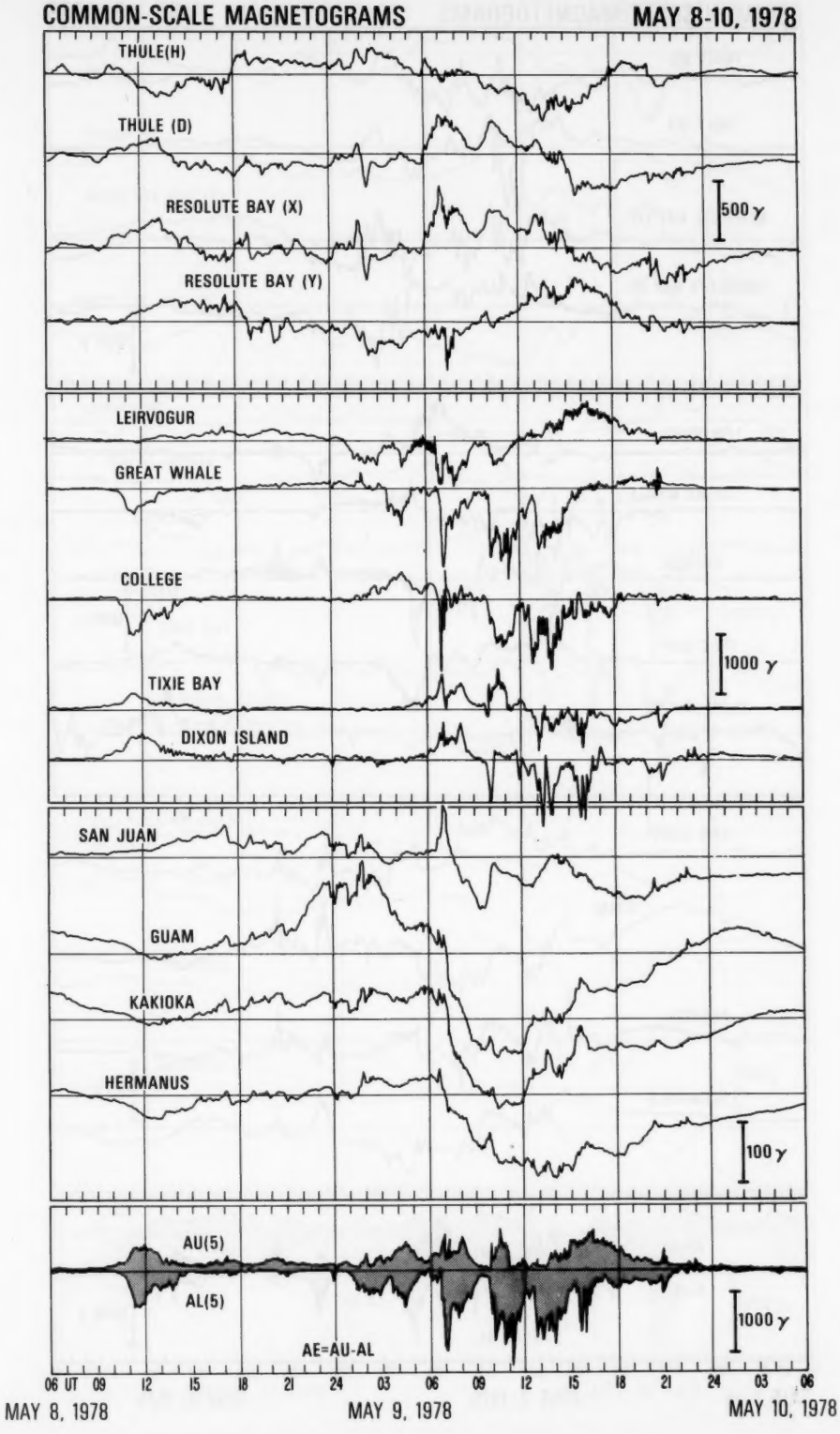
FEBRUARY 14, 1978
FEBRUARY 15, 1978

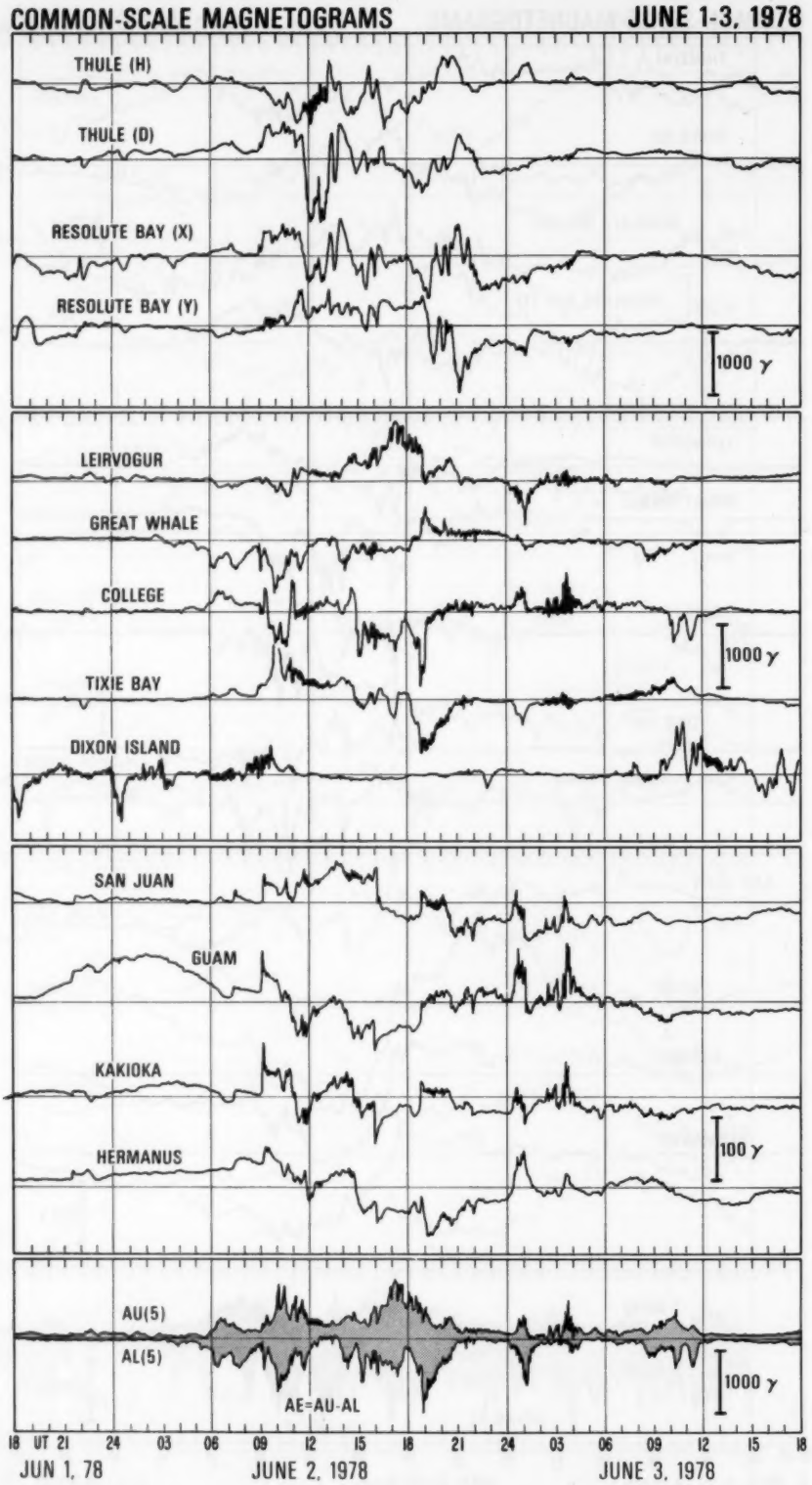

COMMON-SCALE MAGNETOGRAMS
MARCH 25-27, 1978
THULE(H)
THULE (D)
RESOLUTE BAY (X)
500γ
RESOLUTE BAY (Y)
LEIRVOGUR
GREAT WHALE
COLLEGE
1000γ
TIXIE BAY
DIXON ISLAND
SAN JUAN
HONOLULU
KAKIOKA
HERMANUS
100γ
1000γ
AU(5)
AL(5)
AE=AU-AL
21 UT 24 03 06 09 12 15 18 21 24 03 06 09 12 15 18 21
MAR 25, 78
MARCH 26, 1978
MARCH 27, 1978

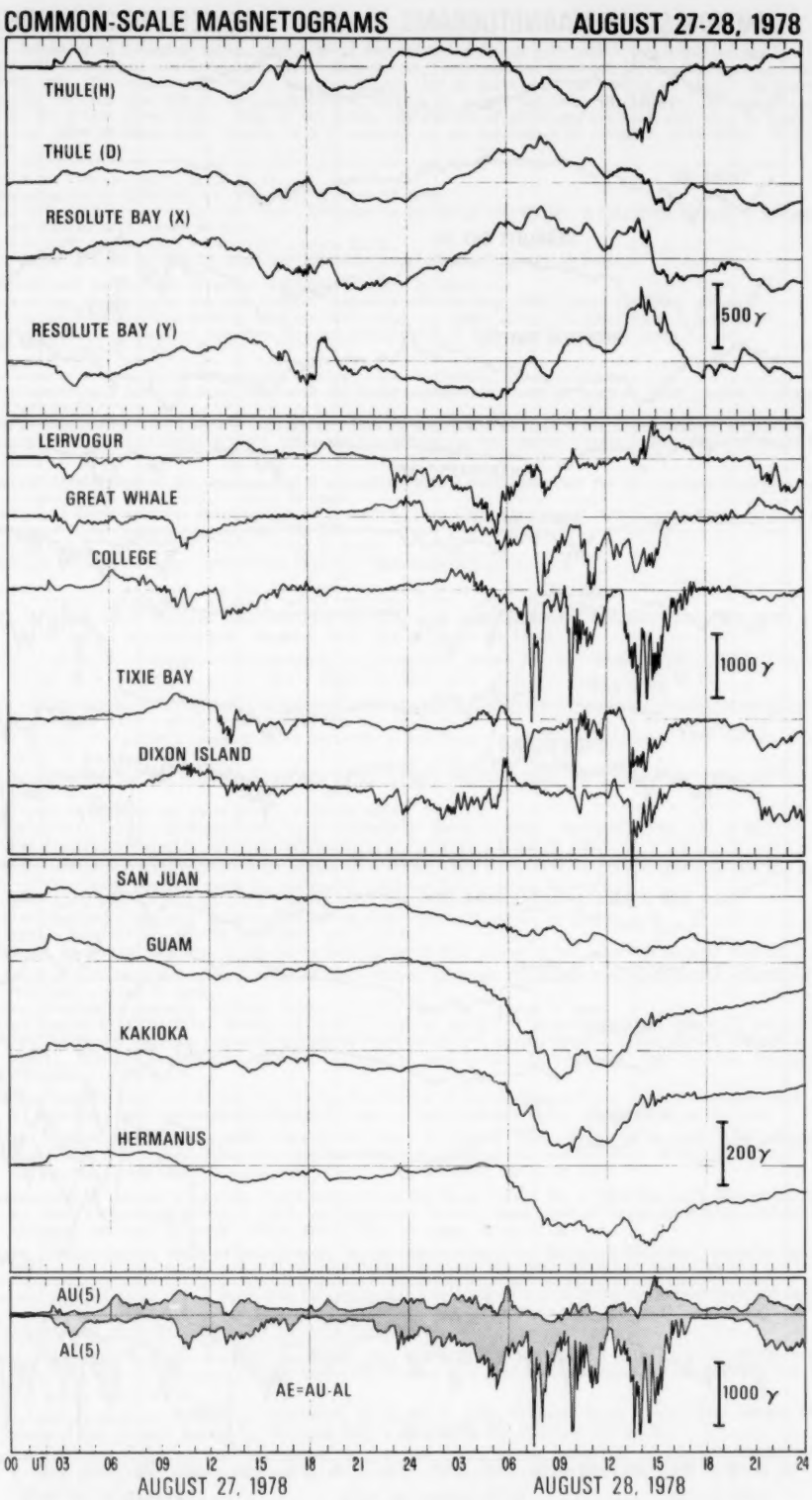
COMMON-SCALE MAGNETOGRAMS APRIL 30 - MAY 2, 1978



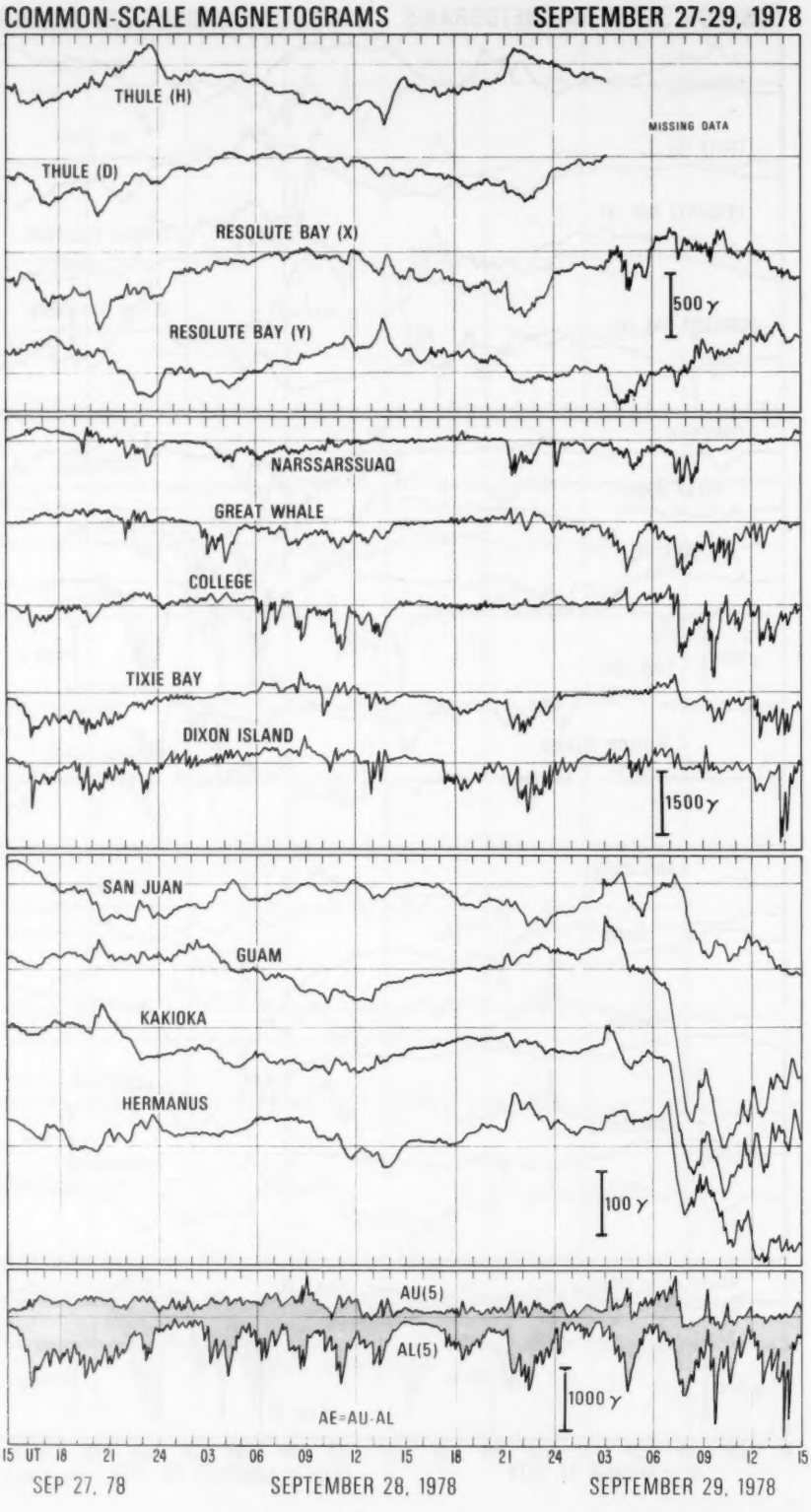

COMMON-SCALE MAGNETOGRAMS
MAY 2-4, 1978
THULE(H)
THULE (D)
RESOLUTE BAY (X)
RESOLUTE BAY (Y)
500γ
LEIRVOGUR
GREAT WHALE
COLLEGE
1500γ
TIXIE BAY
DIXON ISLAND
SAN JUAN
HONOLULU
100γ
KAKIOKA
HERMANUS
AU(5)
1000γ
AL(5)
AE=AU-AL
09 UT 12 15 18 21 24 03 06 09 12 15 18 21 24 03 06 09
MAY 2, 1978
MAY 3, 1978
MAY 4, 1978


COMMON-SCALE MAGNETOGRAMS
MAY 8-10, 1978
THULE(H)
THULE (D)
RESOLUTE BAY (X)
RESOLUTE BAY (Y)
500 γ
LEIRVOGUR
GREAT WHALE
COLLEGE
TIXIE BAY
DIXON ISLAND
1000 γ
SAN JUAN
GUAM
KAKIOKA
HERMANUS
100 γ
AU(5)
AL(5)
AE=AU-AL
1000 γ
06 UT 09 12 15 18 21 24 03 06 09 12 15 18 21 24 03 06
MAY 8, 1978
MAY 9, 1978
MAY 10, 1978


COMMON-SCALE MAGNETOGRAMS
JUNE 1-3, 1978
THULE (H)
THULE (D)
RESOLUTE BAY (X)
RESOLUTE BAY (Y)
1000 γ
LEIRVOGUR
GREAT WHALE
COLLEGE
1000 γ
TIXIE BAY
DIXON ISLAND
SAN JUAN
GUAM
KAKIOKA
100 γ
HERMANUS
AU(5)
AL(5)
AE=AU-AL
1000 γ
18 UT 21 24 03 06 09 12 15 18 21 24 03 06 09 12 15 18
JUN 1, 78
JUNE 2, 1978
JUNE 3, 1978


COMMON-SCALE MAGNETOGRAMS
AUGUST 27-28, 1978
THULE(H)
THULE (D)
RESOLUTE BAY (X)
RESOLUTE BAY (Y)
500γ
LEIRVOGUR
GREAT WHALE
COLLEGE
TIXIE BAY
DIXON ISLAND
1000γ
SAN JUAN
GUAM
KAKIOKA
HERMANUS
200γ
AU(5)
AL(5)
AE=AU-AL
1000γ
00 UT 03 06 09 12 15 18 21 24 03 06 09 12 15 18 21 24
AUGUST 27, 1978
AUGUST 28, 1978

92
Misc
Sep 78



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